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## ABSTRACT

Presented is the experimental edition of Unit I: Exploring My Environment, which consists of 29 life science curriculum activities intended for the 13-to-15-year-old educable mentally retarded child. The curriculum guide is being used in the final field test prior to revision. Stressed throughout the program are ecological themes, inquiry skills, problem solving skills, environmental elements, and applicational behaviors and attitudes. Seven to 12 activities for each of the three core study areas within Unit I are given of which the following are examples: making a pond, sniffing around, forming categories, and reading a thermometer. Activities are organized into materials, teaching strategies, and anticipated student behaviors. The three cores are sensing the environment, investigating the environment, and landmarks in the environment. The ecological theme stressed is the interrelationships of environmental components. Inquiry skills seen to be developed are observing and identifying. Problem solving skills emphasized are experimenting and knowing what the problem is and what to do about it. Environmental elements considered are space and shelter. Behavioral objectives include the development in the student of a sense of self-identity and an attitude of inquiry. (See EC 050 871, and EC 050 873 through EC 050 875 for related curriculum guides.) (DB)



**Biological S**



**Unit 1:  
Explorin**

**Experimental Edition 1972-1973**



## **Biological Sciences Curriculum Study**

### **Unit I: Exploring My Environment**



## Me and my Environment

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## Me and my Environment

### INTRODUCTION

The project to develop a life science curriculum for the educable mentally handicapped (EMH) was originally funded in the summer of 1969 by the Division of Research, Bureau of Education for the Handicapped, United States Office of Education. The project is charged with writing, field testing, evaluating, and disseminating materials dealing with topics in life sciences for the EMH population in our schools.

ME NOW, the BSCS model life science program for educable mentally handicapped youngsters in the 11- through 13-year age-group, has been released and is available from Hubbard Scientific Company of Northbrook, Illinois.

On the basis of the success of the ME NOW program, and in anticipation of meeting further student and instructor needs, the Bureau of Education for the Handicapped has provided the BSCS with a three-year continuation grant to develop model materials for 13- to 15-year-old EMH students. Recognition by the educational community of the need for special emphasis on matters of ecological concern led the BSCS staff to decide early in the project that a

portion of the materials mental studies. The time which is entitled ME AND

In May 1971, a planning of the development of ME AND by the five members of the field of special education writing team consisting of biology teachers; and the guidelines covering areas target population of child and the needs of these child studies. A multidimensional cognitive and affective and needs of the children ing the conference, the and objective outline for the existing literature of needs of handicapped adult of those needs might be

Summer, 1971 - Initial writing conference

1971-72 academic year - Initial testing

Summer, 1972 - Revision

1972-73 academic year - Large-scale field

Summer, 1973 - Revision

1973-74 academic year - Conclusion

## INTRODUCTION



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the educable  
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portion of the materials for EMH students should focus on environmental studies. The time line for developing this new curriculum, which is entitled ME AND MY ENVIRONMENT, is shown below.

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In May 1971, a planning conference was held to prepare guidelines for the development of ME AND MY ENVIRONMENT. The conference was attended by the five members of the advisory committee, four of whom are in the field of special education and the fifth is in biology; the project writing team consisting of five special education teachers and five biology teachers; and the BSCS project staff. Conferees developed guidelines covering areas of environmental concern and utility for the target population of children, the characteristics of this population, and the needs of these children that might be met through environmental studies. A multidimensional model incorporating the science content, cognitive and affective behaviors, ecological themes, contextual focus, and needs of the children resulted from the planning conference. Following the conference, the BSCS project staff prepared a proposed content and objective outline for the curriculum. A thorough study was made of the existing literature covering the physical, social, and psychological needs of handicapped adults; the staff then attempted to identify which of those needs might be met by ME AND MY ENVIRONMENT.

Summer, 1971 - Initial writing conference

1971-72 academic year - Initial testing

Summer, 1972 - Revision

1972-73 academic year - Large-scale field test

Summer, 1973 - Revision

1973-74 academic year - Conclusion of field test



## Me and my Environment

### THE ROLE OF THE TEACHER IN THIS EXPERIMENTAL EDITION

This curriculum has been written by teachers; it will be tested and modified by teachers. BSCS enthusiastic teachers for this development, testing, and modification. Ten of these teachers were selected as experimental teachers to provide the best possible initial field test of the curriculum. Feedback for the revision depends heavily upon the resourcefulness of these teachers. This means including:

1. Implementing the strategies and activities exactly as they have been written. Only when the curriculum as prescribed are analyzed can its strengths and weaknesses be revealed.
2. Developing a feel for the inquiry strategy, flow of activities, and ultimate student behavior. This understanding of the rationale of this program, the test teachers must suggest extensions and invent yet others as needed that would enable their students to achieve the objectives when.
3. Providing timely, accurate, and detailed feedback specifying strengths and weaknesses, modifying activity.
4. Contributing to the actual writing of the curriculum in a few of the open-ended situations. At spots where we have given you the opportunity to develop a portion of an activity in depth but it will enable us to identify potential writers among the group of test teachers.

The following outline will provide you with an overview of the major components of the program:

	Ecological Themes	Inquiry Skills	Problem Solving Skills
UNIT I. EXPLORING MY ENVIRONMENT	Interrelationships Of Environmental Components	Observing	Experimenting
Sensing My Environment Investigating My Environment Landmarks In My Environment		Identifying	Knowing What The Problem Is And What To Do To Solve It





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tested and modified by teachers. BSCS has attempted to find highly skilled, flexible, and modification. Ten of these teachers served as writers to create the materials. Fourteen best possible initial field test of the curriculum. The success of this test in providing usefulness of these teachers. This means that the test teachers have several responsibilities,

they have been written. Only when the combined results of all teachers' use of this and weaknesses be revealed.

activities, and ultimate student behaviors around which the curriculum is organized. Through the test teachers must suggest extensions of some activities, modifications of others, and students to achieve the objectives when the specified strategies are inadequate.

defining strengths and weaknesses, modifications, alternatives, and student responses for each

a few of the open-ended situations. We purposely have provided blank pages in the manual develop a portion of an activity in depth. Not only will this give ideas to the future writers, among the group of test teachers.

the major components of the program:

Inquiry Skills	Problem Solving Skills	Environmental Elements	Applicational Behaviors And Attitudes
Observing	Experimenting	Space	The student develops:
Identifying	Knowing What The Problem Is And What To Do To Solve It	Shelter	--a sense of self-identity. --a success syndrome. --an attitude of inquiry.



## Me and my Environment

	Ecological Themes	Inquiry Skills	Problem Solving Skills
<b>UNIT II. ME AS A HABITAT</b>  Microbes And Me Disease In People Habitats Environmental Choices And Chances (Drugs, Alcohol, Smoking)	Diversity And Pattern     Complementarity Of Organisms And Environment	Associating   Describing   Comparing	Recording Data   Discussion And Treatment Of Group Data   Organizing Data
<b>UNIT III. ENERGY RELATIONSHIPS IN MY ENVIRONMENT</b>  Introduction To Energy Energy In Food Energy Flow Through Food Chains And Webs Food Making In Plants	Flow Of Energy	Translating   Inferring	Explaining, Defending Answering Why Questions   Asking Questions   Identifying Variables
<b>UNIT IV. TRANSFER AND CYCLING OF MATERIALS IN MY ENVIRONMENT</b>  Energy And Material Transfer Decomposers In My Environment Garbage And My Environment	Cyclic Nature Of Processes	Applying   Guessing	Identifying Controls   Interpreting Results   Drawing Conclusions



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Primary Skills	Problem Solving Skills	Environmental Elements	Applicational Behaviors And Attitudes
Associating	Recording Data	Living Things (Plants) (Animals) (Microorganisms)	--skills in functional, receptive, and expressive communication about his environment.
Describing	Discussion And Treatment Of Group Data		--skills in recognizing environmental landmarks and utilizing these for orientation and mobility.
Comparing	Organizing Data		--a recognition of his social dependence on others and his biological dependence on the environment.
Translating	Explaining, Defending, Answering Why Questions		--an understanding of the interrelationships between environmental components.
Measuring	Asking Questions	Energy (Food Chains)	--skills in employing systematic problem-solving techniques to persistent problems of daily life.
Classifying	Identifying Variables	Air	--skills in hygienic personal body care.
Controlling	Identifying Controls		--skills in the selection, preparation, and storage of food.
Evaluating	Interpreting Results		
	Drawing Conclusions		

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## Me and my Environment

	Ecological Themes	Inquiry Skills	Problem Solving Skills
<b>UNIT V. POPULATIONS AND SOCIETIES</b>  Behavior Within Different Social Levels Population Size And Complexity Behavior And Population Density Population Size And Resource Use Population Growth	Finiteness Of Resources     Population Dynamics     Ecological Trade-Off	Speculating     Predicting	Recognizing Problems And Formulating Questions     Designing Experiments

### SOME GENERAL OBJECTIVES

1. To help the mentally handicapped child develop interests, skills, and positive attitudes through experiences with scientific -- especially biological -- concepts.
2. To provide the mentally handicapped child with challenging intellectual activity at a level commensurate with his ability to respond effectively.

3. To aid the heightened measure of for his env
4. To contribu social matu



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Skills	Problem Solving Skills	Environmental Elements	Applicational Behaviors And Attitudes
ing	Recognizing Problems And Formulating Questions	Water	--an attitude of self-concern, as well as social concern, related to his environment.
ing	Designing Experiments	Man	--skills in making independent decisions that relate to the quality of his environment. --a feeling of competence in dealing with his environment. --a basis for aesthetic appreciation. --skill that may lead to a hobby or avocation over a lifetime. --an attitude about and concern for overcrowding and its social and personal implications.

skills,  
--

3. To aid the child in establishing functional modes of living through heightened observation, a well-developed curiosity, an increased measure of self-confidence, and a sense of responsibility to and for his environment.
4. To contribute to the development in the child of a higher level of social maturity and emotional stability that can lead to increased



## Me and my Environment

vocational proficiency, realistic self-concept, creative self-expression, and more effective assimilation into the community.

5. To develop in the child a knowledge of himself in relation to his environment, along with a tendency to apply this knowledge to the tasks of everyday living.
6. To contribute to increased knowledge about the learning characteristics and limitations of the educable mentally handicapped pupil, and about effective strategies for instruction.

### BASIC ASSUMPTIONS UNDERLYING THE DESIGN FOR THE CURRICULUM MATERIALS

In the initial discussions with the special education community, some basic assumptions for the development of the life science materials were identified. These were revised somewhat, based on the development and testing of ME NOW, to form the underlying assumptions for the development of ME AND MY ENVIRONMENT.

1. Ideas must be developed with a minimum of reading on the part of the student.
2. Vocabulary, where possible, should involve functional rather than technical language, although technical names are taught when these may be useful to the student.
3. Entry points should be concerned with concrete, tangible "things," rather than with abstract, intangible ideas or concepts.
4. The classroom environment and the materials should not be cluttered with distractors; however, a variety of perceptual modes and instructional media should be used (e.g., sight, touch, smell, etc.).

5. Activities should be designed to reinforce or reinforce

6. Learning, for the most part, should be non-redundant, and instructional materials should be student-watchful.

7. An activity must be designed to elicit desired behavior.

8. EMH children must be given oriented instruction.

9. The curriculum should be based on the experience in the child's environment.

10. Most teachers should have specific directed science concepts.

11. The teachers of the materials, for the most part, are not specific with the materials.

12. The materials should be designed to meet the differences among the population.

13. To achieve the maximum benefit, the attempt to create a curriculum is, the amount of time is probably a factor, and should be established.



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5. Activities should be developed in small, discrete units that build on or reinforce a concept or skill.
6. Learning, for the EMH student, requires slower pacing, greater redundancy, and time for participation by each student. The instructional materials should be student-doing rather than student-watching.
7. An activity must involve the student in ways of applying the desired behavior; transfer cannot be assumed.
8. EMH children need and can respond effectively to an activity-oriented instructional approach.
9. The curriculum should be designed to provide students with an experience in science as inquiry, through the exploration of their environment.
10. Most teachers of the Educable Mentally Handicapped will need specific directions in using inquiry strategies for teaching science concepts.
11. The teachers of the Educable Mentally Handicapped, for the most part, are not science-oriented; therefore, the materials should be specific with regard to science techniques.
12. The materials and methods must allow for attention to individual differences and to specific learning characteristics of the population.
13. To achieve the objectives, designers of the materials should attempt to create a balance between detail and motivation; that is, the amount of minute and abstract detail that can be learned is probably a function of the interest and motivation that can be established to deal with it.



## Me and my Environment

### MAJOR AIMS FOR ME AND MY ENVIRONMENT, A JUNIOR HIGH EMH SCIENCE CURRICULUM

The curriculum includes instruction related to the personal well-being, self-worth, confidence, and successful coping of each person to meet persistent daily life problems. The major aims are:

1. Development in each child of a sense of identity as a person who has some degree of control over and can act on his environment. This will lead to a degree of self-determination based on a rational coping with situations rather on a passive compliance or an impulsive response to problems.
2. Development in each child of a success syndrome. More than anything else, each activity is intended to be a success experience for each child. It is the teacher's responsibility - almost obligation - to see that each child succeeds at a level that is challenging to his abilities and that preserves his self-respect. It is a further responsibility of the teacher to point out his achievement. As a group, the students should help each individual fit what he has done into a pattern of accomplishment.

The curriculum is intended to be intellectually stimulating, and exploratory for each student, and to induce him to become actively involved. It should encourage the following outcome:

3. Development in each child of an interest that could become a hobby or avocation over a lifetime (through an exposure to an array of experiences in science). It is hoped that many children will find some area -- perhaps growing plants, caring for animals, identifying flowers, collecting things, or simply enjoying outings into the country -- that they feel strongly about and can develop some competence or knowledge in. This would provide a means of self-expression, and (perhaps) allow some degree of sharing or involvement with others.

The curriculum is of some specific content objectives are:

4. Development in... with other living... regard an... care... a group, because...
5. Development in... conditions that... environment and...

These are the five... for teachers and... A junior high student... materials expressed... want these kids to... to bring these kids... make them feel that... will try a little... it works...Another... down -- try it again... just the tone of voice... staying in this class... don't, (when their... today?'"

Since the original... MY ENVIRONMENT, etc... encompass the major... that the curriculum... student population... understanding of wh...





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The curriculum is organized around eight ecological themes. There are some specific content objectives related to these. The ultimate objectives are:

4. Development in each child of a sense of relationship and empathy with other living things. It is hoped this will lead to a positive regard and caring about what affects them as individuals and as a group, because what affects them affects the community of man.
5. Development in each child of an understanding of environmental conditions that will lead to a sense of responsibility for the environment and actions that protect or improve it.

These are the five overriding aims that should serve as reference points for teachers and guide much of what they plan and do in the classroom. A junior high student in one of the first classes that tested these materials expressed what is needed this way: "I just feel that if we want these kids to improve, and that's the whole idea of it, you have to bring these kids a certain amount of happiness. You have got to make them feel that they are really wanted. If they are wanted, they will try a little harder. That sounds kind of childish, I suppose, but it works...Another thing...always inspire: 'Come on, put your best foot down -- try it again.' You know, things like that. I mean, to me, just the tone of voice makes a difference to me about going out or staying in this class. I just feel that they don't want me -- And they don't, (when their tone says) 'Oh, Eddie! Why did he have to come today?'"

#### ECOLOGICAL THEMES

Since the original planning conference for the development of ME AND MY ENVIRONMENT, eight ecological themes have emerged which seem to encompass the major ideas and concepts (i.e., the science content) that the curriculum development team sees as appropriate for this student population. These themes are broad generalizations, some understanding of which appears to be a prerequisite for coping with



## Me and my Environment

one's own environment as well as with society's environmental problems. The themes are probably best thought of as unifying threads which run throughout the curriculum.

### 1. INTERRELATIONSHIPS OF ENVIRONMENTAL COMPONENTS.

"When we try to pick out anything by itself, we find it hitched to everything else in the universe." -John Muir

Life is entirely dependent upon the things that the environment supplies: air, water, food, shelter, and subtle things such as a suitable temperature and humidity. Animals depend upon other animals or plants for food. Scavengers (carrion and detritus feeders) and decomposers (bacteria and fungi) obtain their nutrition from the remains of living organisms. Green plants depend upon sunlight, air, water, and minerals from their environment and form the base upon which all organisms are interconnected by food chains and complex food webs.

Organisms interact with each other, and with the environment, in a variety of ways in addition to the eater-eaten relationships of food chains or webs. Plants compete with each other for light, water, soil nutrients, and growing space. Animals compete for available food resources, space, and shelter. Other relationships include parasite-host and pathogen-host interactions.

The important consequence of this theme is that actions are not singular, nor do they have singular impact. Man's competitive interactions have far-reaching, often unknown consequences. For example, clearing land for raising agricultural crops destroys the habitat for plants and animals and disrupts certain food webs, while establishing suitable habitat for agricultural species. The resulting monocultures are often vulnerable to attack by pests because populations

of natural predators are competitive or exacerbate the predators, so. Similarly, herbivorous crops may destroy applications of nontarget beneficial large-scale, actually decrease transport, and air and water resources upon of a myriad of terms of consideration that lie simple action.

### 2. DIVERSITY

There is great and topographic communities of are adapted to there is diverse diversity. Regarding the functioning within the biosphere

If one looks of sizes, shapes of organisms (producers) with



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of natural predators have been removed. Attempts to control these competitive organisms through applications of pesticides may simply exacerbate the situation by killing nontarget organisms such as predators, scavengers, and decomposers which are actually beneficial. Similarly, herbicides used in control of weeds which are competing with crops may destroy habitats for natural predators, making additional applications of insecticides necessary; these in turn may kill more nontarget beneficial organisms. Numerous studies have shown that large-scale, indiscriminate use of pesticides may, in the long run, actually decrease agricultural productivity. In addition, manufacture, transport, and application of pesticides and fertilizers contribute to air and water pollution, thereby adding to the degradation of vital resources upon which all life depends. This is but one simple example of a myriad possibilities. If we expect students to start thinking in terms of consequences, it is imperative that they realize and appreciate that life depends upon interrelationships and that apparently simple actions may have far-reaching implications.

## 2. DIVERSITY AND PATTERN.

There is great diversity in the environment. Differences in climate and topography generate different environments made up of different communities of plants and animals. Plants and animals differ as they are adapted to perform different functions. Even within a species there is diversity. But, it is possible to find patterns within that diversity. Recognizing patterns helps one conceptualize and understand the functioning and interrelationships of all environmental elements within the biosphere.

If one looks at the organisms in any habitat, he discovers a variety of sizes, shapes, and colors. Further examination will reveal groups of organisms that are related in various ways, e.g. some produce food (producers) while others feed upon these producers (consumers). We



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find that the organisms are all related in a pattern forming a food web.

Diversity is thought to enhance the stability of a system, for it provides alternate channels of energy or materials flow if part of the system is lost or overburdened. For example, consider a single food chain: plants, grasshoppers, frogs, snakes. If one link in the chain is lost, e.g. the grasshoppers are wiped out by insecticides, all links beyond that one will also be lost if they have no alternative sources of food. In a complex food web, however, a link may be lost without destroying the system; links beyond the missing one may turn to another channel for food (e.g., the frogs may exploit another type of insect food resource). Thus, preserving diversity may be necessary in preserving the stability of the life support system of the biosphere. Man cannot exist alone.

It is often said that variety is the spice of life. Diversity makes the environment less monotonous and more interesting. This aesthetic component should receive emphasis in the curriculum.

### 3. COMPLEMENTARITY OF ORGANISMS AND ENVIRONMENT.

A complement is something that completes or fills out something. Complementarity in this context refers to the completion brought about by interrelationships which are dependent upon one another. A few examples should clarify the meaning of this theme.

Organisms use material things from the environment and, in turn recycle things to the environment which may be used by other organisms. Thus, the presence of organisms modifies the environment in various ways, some of which make the environment more suitable for other organisms. Plants use carbon dioxide and release more oxygen than they use. Consumer:

organisms (animals). Both the production of these resources is likewise dependent.

Without scavengers, the removal of the remains from the environment. Primary and secondary elements have come to a stage.

The presence of organisms and helps prevent the rate of evaporation of the atmosphere. influence local climate.

Plant succession in a field, new roads, hardy pioneer plants die, and decay, by plants which turn, cause further change, finally a relative stability itself and that communities are formed.

### 4. FLOW OF ENERGY

"The biotic circuits, rays, declining or increasing of stages in the environment."



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organisms (animals, decomposers) use oxygen and release carbon dioxide. Both the producers and consumers are dependent upon the environment for these resources, and the balance of these materials in the environment is likewise dependent upon both groups of organisms.

Without scavengers and decomposers there would be a prodigious accumulation of the remains of once living organisms cluttering up the environment. Probably all of the available carbon, oxygen, and other essential elements would be tied up in these dead remains. Life would have come to a screeching halt a long time ago!

The presence of plants improves the water-holding capacity of a watershed and helps prevent erosion of the soil by wind and water. Plants reduce the rate of evaporation of soil water but at the same time release it to the atmosphere. Thus, plants play a vital role in the water cycle and influence local climates through the regulated flow.

Plant succession is a classic example of complementarity. An abandoned field, new roadside, or similar disturbed area is quickly invaded by hardy pioneer plants which we usually think of as weeds. As these grow, die, and decay, they modify the immediate environment and are replaced by plants which are better adapted to the new conditions. These, in turn, cause further modifications and are replaced by other populations; finally a relatively stable community exists that is able to replace itself and that is in dynamic equilibrium with the environment. Such communities are usually referred to as climax communities.

#### 4. FLOW OF ENERGY

"The biotic stream is capable of flowing in long or short circuits, rapidly or slowly, uniformly or in spurts, in declining or ascending volume. Ecology calls this sequence of stages in the transmission of energy a food chain, but it



## Me and my Environment

can be more accurately envisioned as a pipe line---(which) leaks at every joint." -Aldo Leopold.

Energy may be defined as the capacity to do work. To cause movement requires energy; indeed, to do anything requires energy. Life depends upon this continuous flow which is initiated by a constant input of energy from the sun, its photosynthetic transformation from light to chemical energy by the producer organisms (green plants), its passage from organism to organism along various food chains, and its eventual loss as radiant heat to outer space. Each time that energy is converted or transformed at each step along the way, some of it is lost from the system and is no longer available to do useful work. This, in simple terms, is the second law of thermodynamics. Green plants are able to fix photosynthetically only a portion of the sun's energy that they intercept. In turn, some of the energy which they trap and store is used by the plants for such things as growth, reproduction, and the movement of materials. Thus, only a portion of that original stored energy is available to the organisms which eat the plants. These organisms likewise use energy in their various life processes so that only a small portion of the energy which they received from eating plants is available to their predators. As a consequence, only about one-tenth of the energy at any step in a food chain is available to the next level. An acre of agricultural land will provide enough food energy for about 1.5 persons for a year if planted in wheat, but will feed only 0.1 person if used to raise beef cattle!

Society's use of fossil fuels is simply a utilization of energy captured and stored over millions of years by green plants. As such, this source of energy is in finite supply and is a nonrenewable resource. Electricity generated by fossil-fuel burning plants can similarly be traced to the sun. Hydroelectric plants offer a limited

alternative source of the limited number (which is simply place on the sun alternative source all others, is gone once released, fill space as heat. The technology of the exploitation of resources and problems. How generated? Can they generated? What organisms?

It should be emphasized present, of replacement. In the foreseeable future, sun, through photosynthesis.

### 5. CYCLIC NATURE

"All the rivers

In contrast to energy living to nonliving supply, and if there of resources and dioxide-oxygen cycle essential mineral Decomposer organisms releasing materials so that they are environment.



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alternative source of electricity. This source is also finite because of the limited number of adequate sites. The use of nuclear reactors (which is simply a duplication on earth of the natural processes taking place on the sun to release energy) to generate electricity offers an alternative source of energy for society; this source, however, as are all others, is governed by the laws of thermodynamics. The energy, once released, flows through the system and is eventually lost to space as heat. This source is also finite, but refinements in the technology of the breeder reactor may make it a very large source. The exploitation of nuclear energy is fraught with unanswered questions and problems. How can we safely dispose of the radioactive wastes generated? Can the earth dissipate the huge amounts of waste heat generated? What effects will this heat have on climates, ecosystems, organisms?

It should be emphasized that nuclear energy offers little hope, at present, of replacing the sun as a life-supporting source of energy. In the foreseeable future, man's only source of food energy will be the sun, through photosynthesis of green plants.

##### 5. CYCLIC NATURE OF PROCESSES.

"All the rivers run into the sea, yet the sea is not full."  
-King Solomon

In contrast to energy, materials (matter) are continuously cycled from living to nonliving systems. Materials necessary for life are in finite supply, and if they were not constantly cycled, life would simply run out of resources and cease. Some examples include the water cycle, the carbon dioxide-oxygen cycle, the nitrogen cycle, and the cycling of various essential minerals such as calcium, potassium, sulfur, and magnesium. Decomposer organisms play a most vital role in many of these cycles, releasing materials which have been incorporated into living organisms so that they are once again available to other organisms in the environment.





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Man's present exploitation of consumable resources, in most cases, upsets these natural cycles. The manufacture and ultimate discarding of nonbiodegradable products removes important elements and compounds from the natural cyclic processes of the ecosphere and could ultimately lead to the exhaustion of such resources for the life support system. Burning of fossil fuels is changing the natural balance of oxygen and carbon dioxide in the atmosphere, with the consequences largely unknown. Degradation of air and water through pollution and the application of pesticides destroys organisms which are vital to cyclic processes.

### 6. FINITENESS OF RESOURCES.

To paraphrase Barry Commoner: Everything has to come from somewhere. The earth has been likened to a spaceship because of its finite supply of all material resources. Inasmuch as life depends upon a continued supply of resources, things have to be used over and over. Continued exploitation of any resource will lead to its exhaustion unless that resource is recycled. The demands of today's technological societies are placing tremendous burdens on the earth's resources and, at the same time, the wastes generated are making other resources unavailable or unfit for supporting life. Projections indicate that we will have depleted our supply of fossil fuels and several important metals resources early in the next century.

Through photosynthesis, food is a renewable resource so long as the natural cycles are able to resupply the raw materials necessary, and so long as environmental conditions necessary for plant life are maintained. But, the amount of food that can be produced on the earth at any one time is finite! There is only so much area available, only so much sunlight that can be intercepted, and only so much of the required raw materials available.

The consequence of this theme is that an indefinite continuation of growth and an increasing use of resources is impossible when the supply

of all resources is exhausted, resource use is determined by other parameters, and projections indicate that growth. Most of

### 7. POPULATION D

A population reflecting the carrying capacity of a given area is determined by immigration, and emigration (e.g., 2, their environment and disease. The equilibrium with the environment. A common misconception is that the population will follow the first curve up to the carrying capacity. There are, however, several factors that can cause the population to shoot the carrying capacity. The rapidly depleted population is a result of the population exceeding the carrying capacity or the carrying capacity appreciable length of time. The population is searching for

The strategy is to maintain the carrying capacity while it is here. The process will survive as evidence that the population is similar to those of the earth's resources.





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of all resources is finite. This is true of population, food consumption, resource utilization, technology, gross national product, or any other parameter which one chooses to measure. And all noteworthy predictions indicate that we are very rapidly reaching the limits of growth. Most of us will probably experience the dire consequences!

#### 7. POPULATION DYNAMICS.

A population refers to a collection of individuals of the same species occupying a given space at a given time. The size of living populations is determined by four factors: rate of birth, rate of death, rate of immigration, and rate of emigration. Populations tend to grow geometrically (e.g., 2, 4, 8, 16, 32,...) to the limit (carrying capacity) of their environment as determined by the available food, space, predation, and disease. They then either level off and exist in some fluctuating equilibrium with other populations, or they crash back to some low level. A common misconception is that all biological populations tend to follow the first pattern: growth which is described by an S-shaped curve up to the carrying capacity, followed by a fluctuating equilibrium. There are, however, many biological populations which dramatically overshoot the carrying capacity of their environment and, as resources are rapidly depleted, crash back to a low population level. A blowfly population is a good example of the latter. Upon arrival at a carcass, the population increases rapidly, completely overshooting the carrying capacity or the environment's capacity to sustain the population for any appreciable length of time. As the food resource is quickly depleted, the population crashes back to the low level of a few adult flies who are searching out a new carcass to feed upon.

The strategy is simple -- exploit the environment for all it's worth while it is here and hope that a few of the many adults produced in the process will survive long enough to make it to the next carcass. There is evidence that the characteristics of human population growth are similar to those described for the blowfly, and our present exploitation of the earth's resources is certainly analogous to the strategy employed



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by the blowfly. While such a strategy may be sound for organisms like the blowfly, it certainly would be disastrous for mankind. The earth is the only carcass that we have.

Since resources are finite, no population can continue to grow forever. The human population has grown geometrically over the past few centuries. Doubling time of the human population is currently less than 35 years, and the most optimistic estimates indicate that this population will exceed the carrying capacity of earth within a century (some suggest that we have already passed the carrying capacity and many demographers and ecologists have predicted a crash in the human population prior to the year 2020). Population control and zero population growth will be accomplished, either by self-imposed means or by natural means. If the latter, it will occur through starvation, disease, war, or lower fecundity. There are no other plausible alternatives!

Perhaps the greatest service that this curriculum could hope to perform is to help this population of youngsters understand the implications of population growth and the necessity for limiting family size. But, to achieve the desired end, the curriculum must provide the students with an understanding of the ways and means by which family size may be controlled. This is one area where individuals can make decisions, can have an influence, and can contribute to the solution of what may be mankind's most pressing problem!

### 8. ECOLOGICAL TRADE-OFFS.

"Every coin has two sides."

As we have seen, all environmental components are interrelated in intricate, complex ways. No action has singular impact, and thus any course of action must be carefully weighed and alternatives considered. Any course of action involves ecological trade-offs.

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### INQUIRY PHIL

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For example, consider society's use of electricity. Many of us enjoy a life style which is very closely tied to the conveniences and labor-saving devices powered by electricity. The generation of that electricity is a major factor in environmental degradation. By and large, we have made the decision to forego a certain amount of environmental quality to enjoy the leisure and convenience of electrical appliances. Projections indicate that increases in demand for electrical power will require strip mining vast areas of Wyoming and Montana, exploiting oil shale reserves of Colorado, depleting the petroleum reserves of the Alaskan north slope (with the inherent dangers to the arctic tundra), and constructing large numbers of nuclear power plants. In all of these activities, we will trade off various amounts of environmental quality.

#### INQUIRY PHILOSOPHY

We do not view science as a collection of facts, but as a process by which facts are gathered, interpreted, and organized into conceptual schemes. We have included facts, and activities structured to generate facts, not for their intrinsic value but to provide the means through which concepts and generalizations are developed through an inquiry strategy.

Inquiry, simply defined, is finding out why. Inquiry may be defined as a process of questioning, of seeking information, of discovering. For EMH students, as for others, the excitement of discovery adds meaning to learning. Inquiry allows the student a natural avenue for satisfying his curiosity about his world. An inquiry strategy is one which poses a question or problem and then guides students through inquiring kinds of behaviors such as observing, describing, identifying, comparing, associating, inferring, applying, predicting, translating, guessing, speculating, creative thinking (divergent production), and value judging.

There are degrees of inquiry. On one end of the scale, a question is posed and the student, after analyzing the question and applying his



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experiences and background information, answers the question. At the other extreme, the student poses the question after being given a certain amount of background information, and then proceeds to answer the question after being given a certain amount of background information, and then proceeds to answer the question by designing an experiment, conducting the experiment, and interpreting the results.

All degrees of inquiry have a common ingredient: the answer is not given; it is arrived at by the individual after he has analyzed information relevant to the question. The distinction is obvious -- in inquiry strategies the questions are answered by the students and not the instructor.

If knowledge is acquired, at least in part, through an inquiry strategy, then the student should be able to use that strategy in acquiring further information and solving future problems as they arise.

It is assumed that after completion of the curriculum, the student will ask questions that emerge through the interaction of environmental inputs with the experiences we have provided. He will be more able to seek answers to these questions through his ability to acquire and interpret information.

### INQUIRY SKILLS

1. OBSERVING is a fundamental activity of scientists. The accumulation of information which may lead to knowledge comes primarily from what we see, hear, taste, smell, or touch. A major function of this curriculum should be to offer a rich and varied environment of concrete experiences for the students. As students gain experience, accuracy in observing and recording the details of their findings should be increased. Observing should frequently

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include an element of divergent production by asking the students to heed all of the details, extraneous and otherwise, that they can. Opinion, interpretation, and speculation are not, of course, a part of observing.

2. IDENTIFYING involves the recognition of what something is or of certain properties that make it possible to categorize the thing. This includes the determination and/or matching of a name or definition, the use of a key or guide, or the recall of a label from previous experience.
3. ASSOCIATING involves seeing what things go together -- seeing relationships or recognizing common properties. Associating may be thought of as a prerequisite to classifying, or organizing data or information for some purpose. Grouping (classifying), through associating, may enhance conceptualizing.
4. DESCRIBING involves writing or verbalizing orally all of the relevant observations about a thing, that another individual would be able to use the description to identify the object or share in an event he did not actually experience. Emphasizing description should enhance development of observational skills.
5. COMPARING involves the inspection of two or more objects (events) to note similarities and differences. It is closely related to the student's ability to distinguish between critical differences and to generalize recognizable similarities. This skill could involve the use of referents other than the things compared. It is necessary that one have an understanding of such comparatives as hotter-colder and smaller-larger, as well as a comprehension of their related values, e.g., warmer-cooler and littler-bigger.
6. TRANSLATING is the skill in which recorded observations (data) are expressed in another symbolic form. The conversion of tabular



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information into a graph or of a verbal description into a drawing exemplifies this.

7. INFERRING involves drawing a conclusion based on evidence. It requires going beyond the information at hand to describe an effect or answer a question. It involves extrapolation and implication, and is closely related to two of the problem-solving skills: interpreting results and drawing conclusions.
8. APPLYING involves the utilization of a learned task or skill in some other situation than that in which the task or skill was originally learned. For example, if a child has learned to orient the top of one map with north, an application would be to orient another map in a similar manner.
9. GUESSING is the generation of ideas about outcomes in a data-poor situation. It involves using one's common sense and hunches to make the most informed judgment one can.
10. SPECULATING is the process of generating ideas about the nature or outcome of something one has not had the opportunity to observe, but about which one can think based on past experiences. It may be that a great deal is known about the subject, but without having observed it, one must describe the event from imagination.
11. PREDICTING is the skill of making informed estimates of what should happen in a given situation, based on knowledge of what enters into the situation and previous experience.
12. DIVERGENT PRODUCTION refers to the process of generating as many ideas about something as possible.
13. VALUE JUDGING involves more than simply expressing opinions or preferences. It is the comparison of things and the assignment of relative value to them, based upon some set of criteria. In this curriculum, the WHY of valuing should be sought.

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### PROBLEM SOLVING SKILLS

Inquiry is finding out WHY. The process of finding the answers to WHY is problem solving. The ME AND MY ENVIRONMENT science curriculum is a structured sequence of activities that enable the student, through success, to learn to seek the answers to WHY. It is hoped that the experiences provided in the curriculum will enable the student to face and solve the problems of everyday life, both now and later.

There are at least three levels of mastery of problem solving skills. The minimum level is an awareness of the skill. The second level is the functional ability to perform it. The highest level includes the capability of designing an original experiment and carrying it to completion. It should be borne in mind that problem solving behavior is a complex package involving past experience, motivation, cognitive development, etc. The development of problem solving skills should be closely related to the appropriate inquiry skills, concepts, and other organizers of the curriculum.

A brief description of the intended interpretation of the problem solving skills follows in what we consider to be a hierarchy of easiest to most difficult.

1. EXPERIMENTING is doing something to see what happens. It is having the opportunity to "mess around" with a given piece of apparatus or set of materials, to pursue individual curiosity or interest, to explore, and to find things out.

Some examples of experimenting include: investigating the properties of environmental objects (e.g., which ones will float, which ones can be burned, which are man-made, etc.), having the opportunity to use thermometers or balances, raising a classroom pet or plants, burning things under a pinwheel, having time to experiment with the balances, etc.





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It is important to distinguish between experimenting as we have defined it and the formal aspects of experiment and experimental design. Note that the formal aspects are dealt with as a separate category and that designing experiments is thought to be the most difficult of the problem solving skills.

To encourage development of this skill, instructions such as "ALLOW STUDENTS TO MANIPULATE AND EXPERIMENT WITH THE BALANCES," "CAPITALIZE ON STUDENT INTEREST BY ALLOWING STUDENTS TO OBSERVE AND HANDLE THE PETS," etc., are given to the teacher.

2. KNOWING what the problem is and what to do to solve it. Defining the problem and its parts clearly is an important first step in any problem solving situation. We assume that recognition and definition of a problem represents a difficult task for this student population, and has therefore been placed high in the problem solving skill hierarchy. The purpose of this skill is to assist students through many experiences in recognizing that a problem exists, in defining that problem, and understanding how answers to that problem might be obtained. This skill must be emphasized (that is, the problem made explicit) for the logical development of those skills which follow. Here we are concerned that the student know the question under investigation and clearly understand the methods to be used in attempting to answer that question. The materials should emphasize, for both teachers and students, that science is a process of finding answers to questions. There is a subtle difference between telling the student the answer to the question he is investigating (e.g., "To see if it is warmer in the sun or in the shade") as opposed to making it clear what the task focus is (e.g., "To see if there are differences in the temperature of different parts of the environment, and if so, see if we can discover what makes the temperature different in different places").

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3. RECORDING DATA questions of science are answerable through observation and collection of data pertinent to the question. Recording of observations is a necessary skill to enable the investigator to recall the observations and discuss and interpret them in view of the question. Included here is the collection and transcription of information called for by the question. Making sketches, notes, taking pictures, recording sounds, recording measurements, etc., are included.
4. DISCUSSION AND TREATMENT OF GROUP DATA -- COMPARING RESULTS A look at the outcomes of each student's or student group's investigation and a discussion of why one result may differ from another should emphasize the dynamics of group discussion and dialog rather than recitation and monolog. Discussion of variability of results should assist students in the identification of variables which may influence outcomes. The ability to express or talk about what was done is involved here, with students operating primarily at the observing, identifying, describing, and comparing levels of cognition. Discussion of individual or group results provides the teacher with an opportunity to assess student understanding of the investigation and to recognize possibilities for further investigation, alternative activities to re-emphasize particular concepts, or review.
5. ORGANIZING DATA The ordering and grouping of recorded information makes it easier to interpret and see relationships. Included in this category are tabulation of data, averaging or deciding on best estimates, any visual representation such as line or bar graphs, and pictures or schematic representations. This is the most difficult skill directly related to data for students to become proficient in. Organizing data often involves the inquiry skill of translating information into a different symbolic form.



## Me and my Environment

6. **EXPLAINING, DEFENDING, ANSWERING WHY QUESTIONS** This involves discussion of a more sophisticated level than that previously considered. Explaining should assist in the development of the idea of cause and effect. It implies the students' understanding of the question, the procedures, and some ability to interpret results. Defending encourages confidence in one's procedures and interpretation of outcomes. Answering why questions requires an understanding of the questions and task as well as forcing students to analyze data and make interpretations. In the activity Food For Sleep, such questions as "WHERE DID THE HEAT ENERGY COME FROM?" "HOW DO YOU KNOW?" and "WHY ARE YOU TAKING THE TEMPERATURE OF ALL THREE CONTAINERS?" fall into this category. To answer such questions, the students are often operating at the inference level of cognition.

Specific examples of such questions are included in the guide. It seems particularly appropriate for the teacher to be asking individuals or groups these kinds of questions as they proceed with an investigation. We need to emphasize, by providing questioning strategies, that discussion of this sort with individuals and small groups is an effective method of instruction which provides immediate feedback to the teacher.

7. **ASKING QUESTIONS** This category refers to student questions which are raised as a result of their observations, experiences, and experimenting. Teachers are given examples of the kinds of questions that students may raise and suggestions of how such questions should be dealt with.
8. **IDENTIFYING VARIABLES** Identification of those variables which may influence the outcome of an investigation is necessary if one is to understand the concept of a controlled experiment, if one is to make any sort of an appraisal of the

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design of an experiment or investigation, and if one is to make an intelligent interpretation of the results of an experiment. The first step toward these goals is to realize that many factors may influence an outcome and to be able to recognize and identify some of these factors. Students can learn much by asking about what affected the results. This skill is highly related to predicting.

9. IDENTIFYING CONTROLS Once the students are able to identify variables that may influence an outcome, the idea that all variables except the one under investigation must be held constant can be developed.
10. INTERPRETING RESULTS This is perhaps the most important of the problem solving skills, and may be the most difficult to develop. Explicit models for teachers and students are provided. They deal with the data collected and interpret it in terms of the question asked. Emphasis is placed on recognizing the limitations of data and that the data may or may not have answered the question; not going beyond the data; and recognizing the need for further investigation. Teachers are cautioned to avoid the temptation of ignoring the data and simply providing "the answer."
11. DRAWING CONCLUSIONS Interpretation of results may warrant drawing conclusions. The emphasis here is on drawing only those conclusions that are supported by the data collected. Some forced conclusions are inevitable because of the difficulty of providing experimental evidence; however, great care is exercised to avoid forced conclusions when an experiment is conducted and data gathered.
12. RECOGNIZING PROBLEMS AND FORMULATING QUESTIONS This skill is a necessary prerequisite for the general application of the other problem solving skills outside the classroom situation. In other



## Me and my Environment

words, if we expect students to apply the problem solving skills above to their daily problems, it seems necessary that they be able to recognize that a problem exists and be able to state an appropriate question. To develop this skill, the students are presented with events or phenomenon that present an identifiable problem, and then given the opportunity to define that problem.

13. DESIGNING EXPERIMENTS Once the students are able to recognize a problem and formulate a question, an experiment to answer that question may be designed. The design should include identification of variables and controls, methods for observation, gathering data, organizing and presenting data, etc. It is assumed that this student population will be able to perform this skill only after a great deal of experience with the preceding skills.

### SPECIFYING STRATEGIES FOR INSTRUCTION

The model for inquiry used in these materials demands that the focus of classroom activity be on student involvement with materials and activities. The teacher functions as a catalyst in generating pupil response in the learning situation. The response desired may be attitudinal, cognitive, or psychomotor: verbal or nonverbal. The teacher's behavior also falls in these same categories, but with an important difference: the teacher must be totally conscious of his role as a stimulus, while the student is generally unaware that he is being manipulated by strategy.

To communicate maximally with the teacher, we feel we must carefully describe as much as possible of the pattern of interaction upon which the anticipated results depend. The whole intent of this curriculum would be defeated if this pattern is not understood and implemented. We know, for example, that teachers often fail to allow children the opportunity or the time to think for themselves when a problem is

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### UNIT GOALS

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posed. They also frequently impose their observations and interpretations of things on children rather than allow the children to express their own views of things observed. We hope, therefore, to provide for teachers a model of strategy in these materials that will -- if initially studied and used -- demonstrate the benefits we describe for it in terms of pupil response behavior.

We do not anticipate that we can predict all that will occur with individual students in the classroom. We hope that we can, however, provide enough reminders to the teacher so that he will deal with unexpected or unpredicted events in the same mode in which the materials are written.

#### LEVELS OF OBJECTIVE STATEMENTS

##### UNIT GOALS

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Unit goals are broad general statements that define long-term goals of a major portion of the unit. An initial statement, "The student will," is understood in each of the goals. They are defined as statements that capture the intent and emphasis of the curriculum. They also serve the function of organizers toward which the core objectives are directed.

##### CORE OBJECTIVES

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The core objectives (stated in student behaviors) refer to the desired outcomes for sequences of activities. The role of these objectives is to summarize what the student will be able to do as a consequence of each of the activity sequences. The core objectives provide a cognitive map for the teacher to extend or elaborate on. These core objectives may also serve as evaluative guides to assess short-term progress and attainment of students.



## Me and my Environment

### ACTIVITY OBJECTIVES

Activity objectives are enabling or performance objectives that relate to the specific activity. They identify the actions or behaviors students must perform or acquire to insure their success in achieving the broader objectives of the curriculum. The role of the activity objective is to provide the teacher with specific instructional landmarks both to plot the course and to chart student progress. The objectives include information which the student has repeated or restated, experiences he has had, actions he has performed, and products he has made.

### ANTICIPATED STUDENT RESPONSE BEHAVIORS

These focus on specific *actions or interactions occurring during instruction*. They describe what we predict students will do or say in response to some specific strategy.

### TEACHING THE MATERIALS

It is often said that man is a curious animal and that science is a content vehicle to capitalize on this phenomenon.

Science, then, for the EMH student, capitalizes on the student's natural curiosity about himself. Science is exciting, and ME AND MY ENVIRONMENT relies on this excitement. This science program has been designed to fit into the already existing curriculum framework and within individual teaching philosophies.

The amount of time spent on each activity can be tailored to fit the mood of the class and the teacher. An average of 45 minutes may be required for all activities. Some activities will require extensive time, perhaps several days. The main point in teaching ME AND MY ENVIRONMENT is not to hurry -- to allow sufficient time for inquiry to occur.

The ME AND MY ENVIRONMENT take less time. The

Particular attention to curriculum with the Sight vocabulary is suggestions given in lary lessons. Materials the lessons provided

### PLANNING GUIDE

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### OVERVIEWS

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### RATIONALE

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The ME AND MY ENVIRONMENT sequence may span three years, or it may take less time. The pace can be set by the individual teacher.

Particular attention has been given to articulating the science curriculum with the other parts of the instructional program. Sight vocabulary is included in many of the activities, and suggestions given for using these words in spelling and vocabulary lessons. Math skills are an integral part of science, and the lessons provide application of the student's math skills.

#### PLANNING GUIDE

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do or say in

Teaching the materials for the first time will require preparation time. Less preparation time is required after that. The teacher's planning guide will help you prepare materials in advance. For example, if a film is to be ordered, the planning guide will remind you when. The guide should be followed rather rigidly when initiating an activity.

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#### OVERVIEWS

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Each UNIT and CORE is provided with a summary "roadmap" to give the teacher an insight into the direction or groupings of activities.

#### RATIONALE

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Each UNIT and CORE is provided with a section to provide background into the why of the particular material used. These rationales should be read, thought about, and continually referred back to in order for you to focus on and subsequently provide *why intentionality* to your students.



## Me and my Environment

### BACKGROUND INFORMATION

Some pertinent points which are not necessarily developed in the curriculum itself but which will provide you with useful information have been incorporated in this section at the beginning of each CORE.

### REVIEWS TO SUCCESS AND CLUES TO SUCCESS

A portion of the evaluation program during the first field testing of ME AND MY ENVIRONMENT entailed the use of what was basically an objective pretest, administered on the days before beginning instruction on each unit, and an identical posttest administered the days following completion of each unit. The items included in each test were specifically designed to secure information on the students' background knowledge as well as to secure data about the success of the materials. They were not used to evaluate the youngsters.

Because the item designs for use with this student population proved highly effective, many of these questions, along with some situational tasks, have been incorporated into two *instructional assessment sections*. The first of these, "Clues to Success," appears periodically within various activities so that you can have immediate feedback on the effectiveness of the materials and instruction. At this point you have the unique opportunity to determine whether or not your students are ready for the next activity or whether a modification, repetition, extension, or review of certain activities is necessary before proceeding.

The "Reviews to Success" are generally concluding activities in a CORE. They enable you to assess the effectiveness of instruction for the entire CORE and to decide if the students are prepared for the next set of objectives.

### WORKSHEETS

The worksheets in the program are used in a variety of ways: a) as reinforcement to general or specific objectives; b) to introduce

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35mm SLID

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### GAMES

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new information and to record data; c) to enhance the interest in an activity; d) as a culminating activity to review what has been covered in previous lessons. Difficult worksheets are duplicated on daylight slides. These worksheets should be demonstrated on the chalkboard before they are attempted by the individual students.

#### 35mm SLIDES

This medium broadens instructional opportunities, especially during inquiry activities. The projected image should be used both by the teacher and by most students during instruction. The teaching strategies give specific instructions for using them.

You need not completely darken your classroom when using the slides. Your students should be able to write or read at their desks or move from their desks to the board while the slides are being shown. It will be desirable, however, to turn off those lights or darken those windows where the light is reflected directly from the chalkboard.

The largest possible image is usually best for the students to see clearly. Therefore, place the slide projector as far as possible from the chalkboard, but so that the image projected does not extend above or below the edges of the board.

It is expected that students and teachers will often use chalk to mark directly on the projected image.

Be sure that you are familiar with the operating instructions for the Carousel Projector and that you observe the manufacturer's cautions for insertion and projection of slides, trays, bulbs, and lenses.

#### GAMES

Perhaps the most ambitious of the endeavors has been to promote certain objectives through the use of games and game theory. Besides providing



## **Me and my Environment**

variation to the instructional mode, the games are used to dramatize some of the major concepts in the curriculum, as well as to give experience in cooperation and taking turns.

### BOOKLETS

This medium is used as a variation to the worksheets and 35mm slides. It combines a minimum of reading with cartooned illustrations to present somewhat detailed factual information.

### POLAROID CAMERA

To increase the opportunities for involving all students in the activities, a Polaroid camera has been included as part of the instructional materials. The camera is provided through the courtesy of the Polaroid Corporation.

A camera in the classroom can serve as a valuable motivation device for students, as well as a help in prolonging their ever-so-short interest span. The instant feedback from the pictures is a replay of the actual class activity, a photographic record that can be used to compare before and after conditions, a progress report of growth and development, or an assessment of the learning that took place in an activity. Actually operating the camera, manipulating parts, focusing, developing, and viewing the finished product affords an ego-building experience. Such experiences will help the student develop self-esteem and self-confidence, thus contributing to the development of a success syndrome.



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## Me and my Environment

### MATERIALS

Camera (Polaroid Square Shooter)  
Polaroid film  
Flash cubes  
\*Masking tape  
\*Yardstick  
\*Marking devices  
\*Clock with second hand  
Worksheet 0  
\*Foot ruler

### TEACHING STRATEGIES

#### Floating Activity. Meet The Camera

*Most students will not know how to operate the Square Shooter Camera. A good understanding now of how it works is essential to the successful use of the camera in subsequent activities.*

Begin by saying:

MANY OF OUR CLASS ACTIVITIES THIS YEAR WILL  
REQUIRE TAKING PICTURES. HOW MANY OF YOU  
HAVE EVER USED A CAMERA?

Then ask:

DO YOU KNOW WHAT KIND OF CAMERA THIS IS?  
(Holding up camera.)

If yes, then ask:

HAVE YOU TAKEN A PICTURE WITH A CAMERA  
LIKE THIS?

If a student has operated a Polaroid Camera previously,  
select that student to assist you with the activity.

Say:

THIS CAMERA IS CALLED A POLAROID SQUARE  
SHOOTER. IT MAKES PICTURES THAT YOU CAN



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## TEACHING STRATEGIES

Meet The Camera

At the end of this activity, each student should:

- have become familiar with the distance of 3 1/2 feet, 5 feet, and 10 feet.
- have participated in identifying parts of the camera.
- have counted time in seconds.
- have operated the camera in taking a picture.
- have developed a picture.

At the end of this activity, each student should:

- respond by show of hands.

At the end of this activity, each student should:

- respond, "Yes," "No," "Don't know."

At the end of this activity, each student should:

- respond, "Yes," "No."

At the end of this activity, each student should:

- respond, "Yes," "No."

At the end of this activity, each student should:

- respond, "Yes," "No."

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## MATERIALS

## TEACHING STRATEGIES

SEE IN ONE MINUTE AFTER THEY ARE TAKEN. THROUGHOUT THE YEAR YOU WILL BE USING IT TO TAKE PICTURES OF CLASS ACTIVITIES AND EACH OF YOU WILL HAVE A CHANCE TO OPERATE IT MANY TIMES.

At this point have students gather around the camera to get a closer look and examine it in order to become familiar with it.

When students are seated once again, distribute Worksheet 0 of camera parts.

Show and tell about the parts of the camera while students find them on Worksheet 0. Write the name of the part on the chalkboard as you discuss it. Have pupils say the name. Continue until you have mentioned all parts essential to their first effort.

Say:

NOW THAT WE HAVE SEEN ALL THE PARTS OF THE CAMERA, WHAT ELSE DO YOU THINK WE NEED TO KNOW IN ORDER TO WORK THE CAMERA WELL ENOUGH TO GET GOOD PICTURES?

If no one implies that it is important to know the distance of the object, then say:

IN ORDER TO GET A CLEAR PICTURE WE MUST KNOW HOW FAR THE OBJECT IS FROM THE CAMERA, AND THEN ADJUST THE CAMERA TO TAKE A PICTURE.

Refer to Distance Scale on Lens Ring. Say:

THIS IS THE PART THAT SHOWS WHICH DISTANCES THE CAMERA CAN ADJUST TO FOR CLEAR PICTURES. 3 1/2 FEET, 5 FEET, 10 FEET, ETC.

## TEACHING STRATEGIES

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THE PART THAT SHOWS WHICH DISTANCES  
CAN ADJUST TO FOR CLEAR PICTURES.  
5 FEET, 10 FEET, ETC.

## ANTICIPATED STUDENT BEHAVIORS

Students:

--look at camera.

--identify parts of camera on the worksheet.

--give varied responses.

## MATERIALS

## TEACHING STRATEGIES

Show a foot ruler. Ask students to identify it.

Say:

LET'S MARK A DISTANCE THAT IS 3 1/2 FEET LONG  
ON THE FLOOR SO WE CAN TELL HOW FAR THAT  
DISTANCE IS WHEN WE'RE TAKING A PICTURE.

Select a volunteer to assist you in marking off the distance with a foot ruler. Use a piece of masking tape to mark the distance. Reiterate how the ruler is placed end to end to get the distance.

Have students search around the room for objects that are approximately 3 1/2 feet long or that are a distance of 3 1/2 feet away from the next object. Repeat this procedure for 5 feet and 10 feet. Allow plenty of time for students to associate one distance at a time with objects in the classroom.

While one-half of the class continues to familiarize themselves with distances, organize the other half to take turns looking through the view finder on the camera to become acquainted with the black line and red arrow inside. Allow them time to practice taking pictures without shaking the camera (refer to position, page 3 in the camera manual).

When everyone in this group has peered through the view finder and practiced holding the camera steady, switch groups and provide the same experience for the other half of the class.

At a point when all pupils have tried the camera and determined distances, refer to the camera Worksheet 0 once again -- this time the back view.



## TEACHING STRATEGIES

Ask students to identify it.

DISTANCE THAT IS 3 1/2 FEET LONG  
O WE CAN TELL HOW FAR THAT  
EN WE'RE TAKING A PICTURE.

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pupils have tried the camera and  
s, refer to the camera Worksheet O  
time the back view.

## ANTICIPATED STUDENT BEHAVIORS

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Students:

--respond, "A ruler," "A stick," "I don't know."

--approximate distance and lengths of 3 1/2 feet,  
5 feet, and 10 feet.

--look through the view finder.

--practice judging distance.

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## MATERIALS

## TEACHING STRATEGIES

Say:

WE ARE NOW READY TO PUT FILM IN THE CAMERA.  
(Identify and discuss only the parts the students  
need to use in loading the camera.)

Say:

(Student's name), WOULD YOU LIKE TO HELP ME  
LOAD THE CAMERA?

Follow instructions on HOW TO LOAD FILM on pages 10  
and 11 of the camera manual.

Have the student fit the film pack on the camera,  
close and lock the back.

Since pictures require a specific amount of time to  
develop, it will probably be necessary at this point  
to conduct a session on telling time by the second hand.

Say:

AFTER A PICTURE IS TAKEN, THE FILM REQUIRES  
60 SECONDS TO DEVELOP. LET'S SEE IF WE CAN  
GET AN IDEA OF HOW LONG THAT IS.

Direct the students' attention to the second hand on the  
clock, preferably a wall clock so that all may see at  
the same time. Point out the second hand and tell them  
to watch it go around the clock a few times.

Say:

NOW WE ARE GOING TO COUNT THE AMOUNT OF TIME  
IT TAKES THE SECOND HAND TO GO FROM 12 BACK TO  
12. I WILL TELL YOU WHEN TO START COUNTING.

## TEACHING STRATEGIES

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...loading the camera.)

...), WOULD YOU LIKE TO HELP ME  
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...DEVELOP. LET'S SEE IF WE CAN  
...HOW LONG THAT IS.

...attention to the second hand on the  
...wall clock so that all may see at  
...t out the second hand and tell them  
...nd the clock a few times.

...NG TO COUNT THE AMOUNT OF TIME  
...COND HAND TO GO FROM 12 BACK TO  
...L YOU WHEN TO START COUNTING.

## ANTICIPATED STUDENT BEHAVIORS

Students:

--assist with loading the camera.

--observe second hand on clock.

## MATERIALS

## TEACHING STRATEGIES

When the second hand approaches 12, signal the class to start counting the seconds softly. When the hand returns to 12 say:

STOP. WHAT NUMBER WERE YOU SAYING WHEN I SAID STOP?

Then say:

IT TOOK 60 SECONDS FOR THE HAND TO GO ALL AROUND THE CLOCK. IT ALSO TAKES 60 SECONDS FOR THE FILM TO DEVELOP. LET'S TRY COUNTING THE SECONDS AGAIN, THIS TIME GOING FROM 3 BACK TO 3.

Repeat the previous procedure.

Say:

NOW WE ARE READY TO TAKE OUR FIRST PICTURE.

Arrange class for a group picture. When the picture is taken, pull film out of camera and have the class count off the 60 seconds of developing time. Peel off the film.

Say:

AS YOU PEEL OFF THE FILM FROM THE PICTURES YOU TAKE, BE CAREFUL OF A JELLYLIKE CHEMICAL ON THE FILM. IT IS IMPORTANT TO KEEP THIS JELLY AWAY FROM YOUR EYES AND MOUTH, AND ALSO AWAY FROM YOUR CLOTHES.

Demonstrate how to fold up the negative. Now proudly show your product to the class.

Say:

## CHING STRATEGIES

approaches 12, signal the class to  
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K. IT ALSO TAKES 60 SECONDS  
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THE FILM FROM THE PICTURES YOU  
L OF A JELLYLIKE CHEMICAL ON THE  
IMPORTANT TO KEEP THIS JELLY AWAY  
AND MOUTH, AND ALSO AWAY FROM YOUR

fold up the negative. Now proudly show  
class.

## ANTICIPATED STUDENT BEHAVIORS

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Students:

--respond, "60," "I forgot."

**MATERIALS****TEACHING STRATEGIES**

NOW IT IS TIME FOR YOU TO TAKE A PICTURE.

Follow the developing procedures on pages 18 and 19 of the camera manual.

Say:

THE PICTURE YOU TAKE MAY INCLUDE EITHER ONE OR TWO CLASSMATES.

Organize the class for taking pictures. Assist students only when absolutely necessary.

Let the picture taking continue until each student has an opportunity to take a picture. Let students choose the classmate whose picture he wishes to take.

Heap praise on students for any accomplishments. If a student's photo fails to turn out well, analyze the problem and allow him to try again.

Mention use of flash cubes at the time needed.

As students succeed in taking a good picture give them gummed label to stick on the back. Each label should include the teacher's name, date, who is in the picture and what the picture is about. In the comments section identify who took the picture. Make clear that it is photographer's responsibility to see that every picture taken is labeled. (He may need to get assistance from you or a classmate.)

## TEACHING STRATEGIES

YOU TO TAKE A PICTURE.

procedures on pages 18 and 19 of

YOU MAY INCLUDE EITHER ONE

taking pictures. Assist students  
as necessary.

Continue until each student has had  
a picture. Let students choose  
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and a brief description. In the comments section  
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responsibility to see that every picture he  
may need to get assistance from

## ANTICIPATED STUDENT BEHAVIORS

Students:

--take pictures of classmates.



## Me and my Environment

UNIT 1. EXPLORING MY ENVIRONMENT

CORE A. SENSING MY ENVIRONMENT

### AIMS FOR ME AND MY ENVIRONMENT

1. DEVELOPMENT IN EACH CHILD OF A SENSE OF IDENTITY AS A PERSON WHO HAS SOME DEGREE OF CONTROL OVER AND CAN ACT ON HIS ENVIRONMENT. This will lead to a degree of self-determination based on a rational coping with situations rather than on a passive compliance or an impulsive response to problems.
2. DEVELOPMENT IN EACH CHILD OF A SUCCESS SYNDROME. More than anything else, each activity is intended to be a success experience for each child. It is the teacher's responsibility -- almost obligation -- to see that each child succeeds at a level that is challenging to his abilities and that preserves his self-respect. It is a further responsibility of the teacher to point out his achievement. The students as a group should help each individual fit what he has done into a pattern of accomplishment.
3. DEVELOPMENT IN EACH CHILD OF AN INTEREST THAT COULD BECOME A HOBBY OR AVOCATION OVER A LIFETIME (through an exposure to an array of experiences in science). It is hoped that many children will find some area -- perhaps growing plants, caring for animals, identifying flowers, collecting things, or simply enjoying outings into the country -- that they feel strongly about and can develop some competence or knowledge in. This would provide a means of self-expression, and (perhaps) allow some degree of sharing or involvement with others.
4. DEVELOPMENT IN EACH CHILD OF A SENSE OF RELATIONSHIP AND EMPATHY WITH OTHER LIVING THINGS. It is hoped that this will lead to a positive regard and caring about what affects them as individuals and as a group, because what affects them affects the community of man.
5. DEVELOPMENT IN EACH CHILD OF AN UNDERSTANDING OF ENVIRONMENTAL CONDITIONS that will lead to a sense of responsibility for the environment and actions that protect or improve it.

1. Explore his immediate environment through physical contacts.
2. Recognize the environmental factors.
3. Create a greater interest in his environment.
4. Understand that his environment affects him.

1. Expand the use of his senses.
2. Identify a wide variety of environmental factors.
3. Identify some qualities that affect the environment.
4. Determine the relationship between the environment and the individual.
5. Infer the needs of plants and animals.





BSCS

UNIT I. EXPLORING MY ENVIRONMENT

CORE A. SENSING MY ENVIRONMENT

UNIT I GOALS

1. Explore his immediate environment through a variety of sensory experiences and physical contacts.
2. Recognize the environmental components essential for all living things.
3. Create a greater interest in, and a more sensitive attitude toward, his environment.
4. Understand that his environment includes the whole Earth.

OBJECTIVES OF CORE A

1. Expand the use of his senses.
2. Identify a wide variety of things in his environment.
3. Identify some qualities that make environments alike or different.
4. Determine the relationship he has with other living things.
5. Infer the needs of plants and animals.



## Me and my Environment

UNIT I. EXPLORING MY ENVIRONMENT

CORE A. SENSING MY ENVIRONMENT

### CORE A RATIONALE

Much of our time is spent looking at our environment but not really observing it. Primarily, our environment is made up of things -- solids, liquids, and gases. These "things" interact with our sense organs and with each other. Really observing our environment requires both know-how and skill. The natural environment is too essential and beautiful a part of each person's life to be set aside in favor of TV, alcohol, or drugs. To observe it and become aware of it through all the senses is to take the first step toward understanding and appreciating one's environment. The purpose of this core is to focus the students' attention on his immediate environment -- home, school, and neighborhood. Taking part in the activities included in the core will, we hope, increase the student's observational skills.

Living things are part of the student's environment. Before he is able to perceive how living things interact, the student will find it valuable to focus attention on a particular living thing. An animal is brought into the classroom in Activity 1-1 (An Animal In Class) and for the portion of the year that it remains, it is dependent on the student for its needs. In this way the student learns firsthand about the animal's life requirements.

This idea is expanded in Activity 1-2 (A Pond In The Classroom) when a miniature pond habitat is established and maintained. The student will develop over a period of time the concept that the number and kind of plants and animals are in balance, and that these living things are interrelated in terms of their food and living conditions. Both the classroom animal and pond, which become an integral part of the classroom at the beginning of Unit I, serve as focal points for activities throughout the entire year. By studying an ecosystem such as a pond for an extended period of time the class will be able to learn about "the environment" and how living and nonliving things affect one another.

Environmental senses. Since man uses his senses, the visual sense must be used properly. In using his senses, he must be using his sense of sight, touch, and other senses, through attempting to make that several aspects of his mind that what is of such factors as people do not see shadow, and motion to benefit the most.

While the unaided eye can do far more with activities is a good viewing the surface should hold it clear slightly upward so focus, move the object becomes clear. Looking moving the magnifying

While seeing dangers that need that severe eye strain arc welder can cause destroyed by looking Long exposure to damage and even to

UNIT I. EXPLORING MY ENVIRONMENT

CORE A. SENSING MY ENVIRONMENT



BSCS

BACKGROUND INFORMATION FOR THE TEACHER

Environmental awareness is to a great extent dependent upon the senses. Since man gains information about his surroundings through using his senses, the various sense organs must be functioning properly and used properly. In all of the activities in this core the student will be using his senses. Since we depend more upon vision than on any of our other senses, three activities are devoted specifically to vision. In attempting to make the necessary observations, students may not be aware that several aspects of sight are involved. The teacher should keep in mind that what is seen varies considerably from person to person. Because of such factors as color blindness, or simply lack of training, some people do not see the same hue or intensity of color as do others. Shape, shadow, and motion must form part of the overall awareness if a person is to benefit the most from his observations.

While the unaided eye tells us much about our environment, it can do far more with a magnifying lens. The magnifier used in several of the activities is a great help in examining small objects or in closely viewing the surface of larger objects. In using the magnifier, students should hold it close to one eye with the head held horizontally or slightly upward so the head does not shade the object being examined. To focus, move the object toward and away from the lens until the object becomes clear. Larger objects that can't be moved will of course require moving the magnifier instead of the object.

While seeing is informative and pleasurable, there are sometimes dangers that need to be considered. The student may need to be reminded that severe eye strain or brilliant lights such as those emitted from an arc welder can cause eye damage. Retinal cells in the eye can be destroyed by looking directly into the sun, even during a solar eclipse. Long exposure to intense sunlight reflected from snow can cause severe damage and even temporary blindness.



## Me and my Environment

### UNIT I. EXPLORING MY ENVIRONMENT

#### CORE A. SENSING MY ENVIRONMENT

#### CORE A RATIONALE (continued)

Not only will the student be introduced to some organisms with which he is unfamiliar, he will also be observing food chains and webs, concepts which will be developed later in the program. He can discover that plants and animals die, and that death influences the size of populations. He will have the opportunity to study growth and development, life cycles of living things, and the adaptations that fit particular living things to particular environments.

As has been indicated, the above understandings do not develop to any degree without the development first of observational skills. The remaining activities are designed to help the students do better observing, so that they can experience their environment more meaningfully. Activity 1-3 (Taking A Closer Look), Activity 1-4 (A Closer Look Outside), and Activity 1-5, (Zoom In, Zoom Out) are all centered around vision as a means of observing. The students discover that there is more to "seeing" than meets the eye. Close, careful looking, sometimes assisting the eye with a magnifier, make it possible to view aspects of the environment that are often overlooked.

While most people normally think of their eyes when observation is mentioned, the other senses should not be neglected when learning about the environment. While our ears are sometimes considered less important than our eyes, hearing our environment can be both educational and pleasurable. In Activity 1-6 (Sounds From My Environment) and Activity 1-7 (Environmental Orchestra), sounds from the environment outside the classroom are brought in for the student to hear and inquire about. The job becomes harder, but more interesting, in Activity 1-8 (Sounds Around Us) when the student must leave the classroom, track down, and "capture" on tape selected environmental sounds.

Our noses are often the first to tell us of environmental pollution. Smell also is sometimes helpful in identifying certain

#### BACK

Potential dangers from caustic fumes from caustic nose. For this reason, stances with caution investigating the dangers of poisoning, no accidents.

Sound intensity level double the noise level double the decibels can produce as high as 120 decibels considerable loss of hearing dangers may help.

The term environment covers different things; all the things and affecting the purposes of the environment to define environment.

UNIT I. EXPLORING MY ENVIRONMENT

CORE A. SENSING MY ENVIRONMENT



BSCS

BACKGROUND INFORMATION FOR THE TEACHER (continued)

Potential dangers also exist when smelling, hearing, or tasting. Fumes from caustic chemicals can damage the nerve endings that line the nose. For this reason students should be warned to smell unknown substances with caution. Taste can also be interesting and informative in investigating the environment, but because of the danger of accidental poisoning, no activities have been included which focus on taste.

Sound intensity is measured in decibels. For every ten decibels, the noise level doubles. Exposure for some time to noise levels beyond 80 decibels can produce a degree of deafness. Rock bands may produce sounds as high as 120 decibels; exposure to such intensity of sounds has produced considerable loss of hearing in many young people. Understanding these dangers may help the students appreciate and protect their sense organs.

The term environment is introduced in this core. The word means many different things. One dictionary defines environment as something that surrounds; all the conditions, circumstances, and influences surrounding, and affecting the development of, an organism or group of organisms. For the purposes of ME AND MY ENVIRONMENT, it is both adequate and appropriate to define environment as "everything around us."



## Me and my Environment

UNIT I. EXPLORING MY ENVIRONMENT

CORE A. SENSING MY ENVIRONMENT

### CORE A RATIONALE (continued)

plants or animals or in calling our attention to something of interest. In Activity 1-9 (Sniffing Around) the student has an opportunity to educate his nose environmentally.

In touching, a person sometimes discovers things he can't learn by using the other senses. An example of this is in determining the texture of soil by running it through the hands and fingers; or in feeling the delicate beauty of a flower. Activity 1-10 (A Strange Feeling) provides the student with an opportunity to "Get The Feel Of Things." The use of senses in perceiving one's environment is reemphasized in Activity 1-11 (Putting Yourself In The Picture -- A Review Of Success).

The final activity of Core A, Activity 1-12 (An Animal Environment), allows the student to practice his newly developed observational skills in examining the pond environment established in Activity 1-2.

UNIT I. EXPLORING MY ENVIRONMENT

CORE A. SENSING MY ENVIRONMENT



BSCS

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## Me and my Environment

UNIT I  
CORE A

## PLANNING GU

NOTE: Some activities (indicated in *italics*) be prepared several days or weeks in a teaching and preparation schedule.


Activity Number, Page, Tentative Teaching Date	Check List of Supplies Needed	
	Materials You Furnish	Materials in Supply Kit
1-1. An Animal In Class  Page _____ Date planned _____	Small cardboard box Materials to construct a cage or a purchased cage Classroom animal	
1-2. A Pond In The Classroom  Page _____ Date planned _____	Container suitable for a pond or aquarium  Sand Pond animals Animal food Rocks Thermometer Pond plants	
1-3. Taking A Closer Look  Page _____ Date planned _____	Shoeboxes with lids Collection of items to be put in each shoebox  Stopwatch or watch with second hand	



## PLANNING GUIDE



BSCS

Activities (indicated in italics and an  in the margin) must be prepared several days or weeks in advance. Use this summary as a guide for planning and preparation schedule. All supplies needed are listed.

Supplies Needed	Notes and Suggestions to Teacher (Italics and Arrow Indicate Advance Preparation Directions)
Materials in Supply Kit	
	<p>To be used as an inappropriate cage</p> <p><i>Materials required will vary according to the animal selected</i></p> <p><i>To be purchased or secured after class selection</i></p>
	<p>Suggested containers include:</p> <ul style="list-style-type: none"> <li>hard plastic kiddie swimming pool</li> <li>baby bath tub</li> <li>concrete or mortar mixing tub</li> </ul> <p>Enough to cover the bottom of the container selected above</p> <p><i>See activity for suggestions</i></p> <p><i>Suitable for the animals selected above</i></p> <p><i>Several dozen and with a variety of sizes and shapes</i></p> <p>Optional</p> <p><i>See activity for suggestions</i></p>
	<p>Six</p> <p>Collection for <u>each</u> shoebox:</p> <ul style="list-style-type: none"> <li>6 rocks (variety)</li> <li>4 twigs</li> <li>2 shells</li> <li>4 leaves</li> <li>1 piece of wood</li> </ul> <p>One</p>


4 B



## Me and my Environment

### UNIT I CORE A

## PLANNING GUIDE


NOTE: Some activities (indicated in *italics* and an ) be prepared several days or weeks in advance. Use a teaching and preparation schedule. All supplies

Activity Number, Page, Tentative Teaching Date	Check List of Supplies Needed		(Italics)
	Materials You Furnish	Materials in Supply Kit	
1-3. Taking A Closer Look (Continued)		Magnifying lenses Worksheet 1-1 Slide 1-1	One per student Mystery Box Worksheet
1-4. A Closer Look Outside  Page _____ Date planned _____	Pieces of newspaper pictures Search cards	Magnifying lenses	One per student 3" X 5" index card activity One per student
1-5. Zoom In, Zoom Out  Page _____ Date planned _____	35mm Slide projector	Slide 1-2 Slide 1-3 Slide 1-4 Slide 1-5 Slide 1-6 Slide 1-7 Slide 1-8 Slide 1-9 Slide 1-10 Slide 1-11 Slide 1-12 Slide 1-13 Slide 1-14 Slide 1-15 Slide 1-16	Very close Close view More distant Very close Close view More distant Very close Close view More distant Very close Close view More distant Very close Close view More distant

## PLANNING GUIDE



BSCS

Activities (indicated in italics and an  in the margin) must be prepared several days or weeks in advance. Use this summary as a planning and preparation schedule. All supplies needed are listed.


Supplies Needed	Notes and Suggestions to Teacher (Italics and Arrow Indicate Advance Preparation Directions)
Materials in Supply Kit	
Magnifying lenses Worksheet 1-1 Slide 1-1	One per student Mystery Box Observation Sheet Worksheet 1-1
Magnifying lenses	One per student 3" X 5" index cards with directives written on them. See activity for the specific directives. One per student
Slide 1-2 Slide 1-3 Slide 1-4 Slide 1-5 Slide 1-6 Slide 1-7 Slide 1-8 Slide 1-9 Slide 1-10 Slide 1-11 Slide 1-12 Slide 1-13 Slide 1-14 Slide 1-15 Slide 1-16	Very close view of tin can Close view of tin can More distant view of tin can Very close view of frog Close view of frog More distant view of frog Very close view of newsprint Close view of newsprint More distant view of newsprint Very close view of bridge Close view of bridge More distant view of bridge Very close view of tree Close view of tree More distant view of tree







## Me and my Environment

### UNIT I CORE A

## PLANNING GUIDE


NOTE: Some activities (indicated in italics and an  in the margin) should be prepared several days or weeks in advance. Use this as a teaching and preparation schedule. All supplies needed:

Activity Number, Page, Tentative Teaching Date	Check List of Supplies Needed		(Italics and  in the margin)
	Materials You Furnish	Materials in Supply Kit	
1-5. Zoom In, Zoom Out (Continued)		Slide 1-17 Slide 1-18 Slide 1-19	Very close view  Close view of pea  More distant view 
1-6. Sounds From My Environment  Page _____ Date planned _____	35mm Slide projector Cassette tape recorder	Tape of environmental sounds Slide 1-20 Slide 1-21 Slide 1-22 Slide 1-23 Slide 1-24 Slide 1-25 Slide 1-26 Slide 1-27	Sawing wood Motorcycle Cricket Jet take-off Toilet flushing Wind storm Thunder storm Surf
1-7. Environmental Orchestra  Page _____ Date planned _____	Cassette tape recorder	Set of environmental habitat sounds	Set A - Marsh Set B - Airport Set C - Park Set D - Rural farm Set E - City street Set F - Woodland

## PLANNING GUIDE



BSCS

Activities (indicated in *italics* and an  in the margin) must be prepared several days or weeks in advance. Use this summary as a guide for planning and preparation schedule. All supplies needed are listed.

Supplies Needed	Notes and Suggestions to Teacher
Materials in Supply Kit	<i>(Italics and Arrow Indicate Advance Preparation Directions)</i>
Slide 1-17 Slide 1-18 Slide 1-19	Very close view of peacock Close view of peacock More distant view of peacock
Tape of environmental sounds Slide 1-20 Slide 1-21 Slide 1-22 Slide 1-23 Slide 1-24 Slide 1-25 Slide 1-26 Slide 1-27	Sawing wood Motorcycle Cricket Jet take-off Toilet flushing Wind storm Thunder storm Surf
Set of environmental habitat sounds	Set A - Marsh Set B - Airport Set C - Park Set D - Rural farm Set E - City street Set F - Woodland

4 D



## Me and my Environment

UNIT I  
CORE A

## PLANNING GUIDE


NOTE: Some activities (indicated in italics and an arrow in the margin) be prepared several days or weeks in advance. Use this a teaching and preparation schedule. All supplies needed



Activity Number, Page, Tentative Teaching Date	Check List of Supplies Needed		(Italics)
	Materials You Furnish	Materials in Supply Kit	
1-8. Sounds Around Us  Page _____ Date planned _____	Glue or paste Construction paper Scissors Magazines Tape of student activity Sound search cards   Tape recorders	Tape of Environmental Habitats   Camera (Polaroid Square Shooter)	Class supply Class supply One pair per Large variety Prepared early 3" X 5" index described  Same tape as Two recorders at least on
1-9. Sniffing Around  Page _____ Date planned _____	Half pint milk cartons Shoebox Hammer Nail Masking tape Cotton Incense Matches Soap Polish remover Paint Banana peel Hair spray Cabbage Saurkraut		Fifteen - two One One One One Roll Small amount Small amount One book One bar Small amount Small amount One Small amount Small amount Small amount

## PLANNING GUIDE



BSCS

Activities (indicated in italics and an  in the margin) must be prepared several days or weeks in advance. Use this summary as a planning and preparation schedule. All supplies needed are listed.


Supplies Needed	Notes and Suggestions to Teacher
Materials in Supply Kit	(Italics and Arrow Indicate Advance Preparation Directions)
<p>Tape of Environmental Habitats</p> <p>Camera (Polaroid Square Shooter)</p>	<p>Class supply</p> <p>Class supply</p> <p>One pair per student -- include at least some left-handed scissors.</p> <p>Large variety with pictures</p> <p> Prepared earlier in Activity 1-2</p> <p>3" X 5" index cards with search directions written on as described in the activity</p> <p>Same tape as used in Activity 1-7</p> <p>Two recorders would be ideal for this activity. Try to secure at least one extra one for this activity.</p>
	<p> Fifteen - twenty</p> <p>One</p> <p>One</p> <p>One</p> <p>Roll</p> <p>Small amount</p> <p>Small amount</p> <p>One book</p> <p>One bar</p> <p>Small amount</p> <p>Small amount</p> <p>One</p> <p>Small amount</p> <p>Small amount</p> <p>Small amount</p>



## Me and my Environment

### UNIT I CORE A

## PLANNING GUIDE

NOTE: Some activities indicated in italics and an  in the margin be prepared several days or weeks in advance. Use this as a teaching and preparation schedule. All supplies needed


Activity Number, Page, Tentative Teaching Date	Check List of Supplies Needed		(Italics and
	Materials You Furnish	Materials in Supply Kit	
1-9. Sniffing Around (Continued)	Oil of cloves Oil of wintergreen Garlic Onion Household ammonia Sage Spoiled food Gasoline Chlorox Orange peel Perfume Rubbing alcohol Hand lotion 35mm Slide projector	Worksheet 1-2 Slide 1-28	Small amount Small amount One One Small amount Small amount Small amount Small amount on Small amount One Small amount Small amount Small amount Smells In My Env Worksheet 1-2
1-10. A Strange Feeling  Page _____ Date planned _____	Sawdust Styrofoam cups or milk cartons Cornstarch Water Food coloring Aluminum pie plates Large container Tablespoon	Graphite	Several handfuls lumberyard. 18 Three or four boxes Supply of One set One per student One large enough One Enough to cover selected above



## PLANNING GUIDE



**BSCS**

Activities (indicated in italics and an  in the margin) must be prepared several days or weeks in advance. Use this summary as a planning and preparation schedule. All supplies needed are listed.

### Supplies Needed

#### Notes and Suggestions to Teacher

(Italics and Arrow Indicate Advance Preparation Directions)

#### Materials in Supply Kit

Small amount  
Small amount  
One  
One  
Small amount  
Small amount  
Small amount - cottage cheese, meat, milk, rotten potato  
Small amount on cotton  
Small amount  
One  
Small amount  
Small amount  
Small amount

Worksheet 1-2  
Slide 1

Smells In My Environment  
Worksheet 1-2

Graphite

Several handful. Obtain from the school woodshop or local lumberyard.

18  
Three or four boxes  
Supply of  
One set  
One per student  
One large enough to mix cornstarch with water  
One  
Enough to cover the bottom of nine of the containers selected above


4 F



# Me and my Environment

UNIT I  
CORE A

## PLANNING GUIDE


NOTE: Some activities (indicated in italics and an  in the margin) should be prepared several days or weeks in advance. Use this information to develop a teaching and preparation schedule. All supplies needed for each activity are listed in the margin.

Activity Number, Page, Tentative Teaching Date	Check List of Supplies Needed		<i>(Italics and arrow indicate materials to be prepared in advance)</i>
	Materials You Furnish	Materials in Supply Kit	
1-11. Putting Yourself In The Picture  Page _____ Date planned _____	35mm Slide projector	Worksheet 1-3 Slide 1-29 Slide 1-30	Senses Worksheet Top Half of Worksheet Bottom Half of Worksheet
1-12. An Animal Environment  Page _____ Date planned _____		Worksheet 1-4 Slide 1-31 Slide 1-32	Review Of Success Review of Success Review Of Success

## PLANNING GUIDE



**BSCS**

activities (indicated in italics and an  in the margin) must be prepared several days or weeks in advance. Use this summary as a teaching and preparation schedule. All supplies needed are listed.

of Supplies Needed	Notes and Suggestions to Teacher
Materials in Supply Kit	<i>(Italics and Arrow Indicate Advance Preparation Directions)</i>
Worksheet 1-3 Slide 1-29 Slide 1-30	Senses Worksheet Top Half of Worksheet 1-3 Bottom Half of Worksheet 1-3
Worksheet 1-4 Slide 1-31 Slide 1-32	Review Of Success Review of Success Question 1 Review Of Success Question 2



## Me and my Environment

### OBJECTIVE FOCUS FOR THIS ACTIVITY

#### UNIT GOALS:

2. Recognize the environmental components essential for all living things.
3. Create a greater interest in, and a more sensitive attitude toward, his environment.

#### CORE A OBJECTIVES:

2. Identify a wide variety of things in his environment.
3. Identify some qualities that make environments alike or different.
4. Determine the relationship he has with other living things.
5. Infer the needs of plants and animals.

### MATERIALS

### TEACHING STRATEGIES

#### Activity 1-1. An Animal In Class

*The students will begin the year by selecting and caring for a classroom animal. In so doing, they will identify the needs of the animal and, as a result, should better understand their own needs. This activity will provide an opportunity for the students to develop a sense of responsibility, for the animal will be dependent upon them for adequate care.*

FOR THIS ACTIVITY

Recognize the environmental components essential for all living things.

Develop a greater interest in, and a more positive attitude toward, his environment.

OBJECTIVES:

Identify a wide variety of things in his environment.

Identify some qualities that make environments alike or different.

Determine the relationship he has with other living things.

Understand the needs of plants and animals.

## UNIT I.

## EXPLORING MY ENVIRONMENT



## CORE A.

## SENSING MY ENVIRONMENT

**BSCS**

## ACTIVITY 1-1.

## AN ANIMAL IN CLASS

**TEACHING STRATEGIES**An Animal In Class

At the beginning of the year by selecting and caring for a classroom animal. In so doing, they will identify the animal and, as a result, should better understand their own needs. This activity will provide an opportunity for the students to develop a sense of responsibility for the animal will be dependent upon them.

**ANTICIPATED STUDENT BEHAVIORS**

*At the end of this activity, each student should:*

- have suggested a number of possible classroom animals.
- have discussed the appropriateness of including various animals in the classroom.
- have participated in choosing a classroom animal.
- have participated in preparing a home for the animal.
- have identified the animal's needs as those of water, food, space, and cleanliness.
- have been assigned or volunteered duty in caring for the animal.

ACTIVITY 1-1

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MATERIALS

- \*Inappropriate cage (small cardboard box)
- \*Materials for students to construct a cage or a purchased cage
- \*Classroom animal

TEACHING STRATEGIES

Because of their nature, some animals are not well suited for use in a classroom. Suggest as choices only those animals which you can secure, maintain, and live with for the entire year. The animal will be utilized in subsequent activities and should be one that can be easily handled.

Possible animals for classroom:

Rabbit	Ants**
Parakeet	Bees**
Canary	Crickets**
Gerbil	Mantis**
Chameleon	Fish**
Salamander	
Guinea pig	
Hamster	
Snake	

As the students suggest possible animals, discuss them and determine as a class whether they would be appropriate or not. Through discussion you should be able to eliminate suggestions which are not appropriate and at the same time give the students an opportunity to have participated in the final choice.

Begin by saying:

A VERY GOOD WAY TO START THE YEAR WOULD BE TO BRING SOMETHING LIVING INTO OUR CLASSROOM. DO YOU KNOW OF ANY LAND ANIMALS THAT WE MIGHT KEEP IN THE CLASSROOM?

\*\*These animals will be difficult to use in later activities and are not recommended unless other animals are also present in the classroom.

\*Not furnished in materials kit

## TEACHING STRATEGIES

their nature, some animals are not well suited  
classroom. Suggest as choices only those  
you can secure, maintain, and live with for  
year. The animal will be utilized in subse-  
cies and should be one that can be easily

animals for classroom:

Ants\*\*  
Bees\*\*  
Crickets\*\*  
Mantis\*\*  
Fish\*\*

nts suggest possible animals, discuss them and  
a class whether they would be appropriate or  
h discussion you should be able to eliminate  
which are not appropriate and at the same time  
dents an opportunity to have participated in  
oice.

ing:

GOOD WAY TO START THE YEAR WOULD BE TO  
SOMETHING LIVING INTO OUR CLASSROOM. DO  
W OF ANY LAND ANIMALS THAT WE MIGHT KEEP  
CLASSROOM?

a's will be difficult to use in later  
and are not recommended unless other  
also present in the classroom.

## ANTICIPATED STUDENT BEHAVIORS

Students:

--suggest any animals that could be kept in a  
classroom.

## MATERIALS

## TEACHING STRATEGIES

List the students' suggestions on the chalkboard and discuss each as to the availability, price, noise, size, amount of care needed, food, cage, etc. Remove from the list those that are rejected by the class because of their inappropriateness. Allow the students to select the class animal from the final list by a secret ballot or a show of hands.

### OBTAIN THE

Purchase the animal, its food, and all the appropriate materials needed to construct the cage.

At the beginning of the next class period, have the animal in an inappropriate container which is too small, has too few openings for air, contains no food or water, has little light entering, and is empty except for the animal.

Place the animal in its inappropriate container where it is visible to all students. Allow them to examine and play with the animal as well as to examine the container.

Then say:

WHAT SHALL WE NAME OUR ANIMAL?

Allow the class to name the animal. A naming contest, drawing suggestions from a hat, or any other method of choosing a name suggested by students could be used.

Once the name has been agreed upon, ask:

WHERE SHALL WE KEEP (name of animal)?

During the discussion, it will probably be brought out that the present container is not a suitable place for the



## ING STRATEGIES

estions on the chalkboard and  
availability, price, noise, size,  
food, cage, etc. Remove from the  
ected by the class because of  
. Allow the students to select  
ne final list by a secret ballot

### OBTAIN THE ANIMAL

s food, and all the appropriate  
struct the cage.

next class period, have the animal  
tainer which is too small, has too  
ontains no food or water, has  
and is empty except for the animal.

inappropriate container where it  
nts. Allow them to examine and  
well as to examine the container.

### OUR ANIMAL?

the animal. A naming contest,  
m a hat, or any other method of  
ed by students could be used.

agreed upon, ask:

P (name of animal)?

t will probably be brought out  
er is not a suitable place for the

## ANTICIPATED STUDENT BEHAVIORS

ACTIVITY 1-1

⑦

Students:

--choose a class animal.

--suggest and choose a name for their animal.

--suggest various places to keep the animal.

# ACTIVITY 1-1

8

## MATERIALS

Diagram 1-1



Hamster

Diagram 1-2



Gerbil

## TEACHING STRATEGIES

animal. If not, ask the class if they think that the container is a good home by saying:

DO YOU THINK THIS IS A GOOD HOME FOR THIS ANIMAL?

WHY ISN'T THIS A GOOD PLACE FOR (name of animal)?

COULD WE MAKE A BETTER PLACE FOR (name of animal)?

If the new cage can be quite easily constructed, and the students are interested in doing so, encourage them to organize construction teams. Furnish the materials and allow them to construct the cage. However, if this is going to take more than one day, do not forget to care for the animal.

When a cage is purchased, or when the cage construction is finished, continue with the following sequence.

WHY IS THIS BETTER TO KEEP (name of animal) IN THAN THE FIRST ONE?

Have a student place the animal in new cage and ask:

WHAT ELSE DOES (name of animal) NEED IN THE CAGE WITH IT?

WHAT DOES (name of animal) EAT?

WHAT DOES (name of animal) DRINK?

## TEACHING STRATEGIES

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home by saying:

IS A GOOD HOME FOR THIS

GOOD PLACE FOR (name of animal)?

BETTER PLACE FOR (name of animal)?

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(name of animal) NEED IN THE

(name of animal) EAT?

(name of animal) DRINK?

## ANTICIPATED STUDENT BEHAVIORS

Students:

--respond, "Yes," "No."

--respond, "It's too crowded," "It needs air,"  
"It needs light," "It needs a bed," etc.

--respond, "Yes," "Maybe," "I guess so," "We could  
try."

--infer the life needs related to space and make  
comments such as, "It's bigger," "More air," "More  
space to move in."

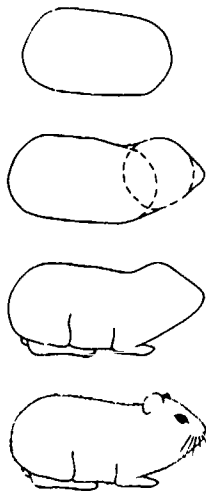
--respond, "Water," "Something to eat," "A place  
to sleep," etc.

--respond, "Don't know," "Lettuce," "Bird food,"  
etc.

--respond, "Water."

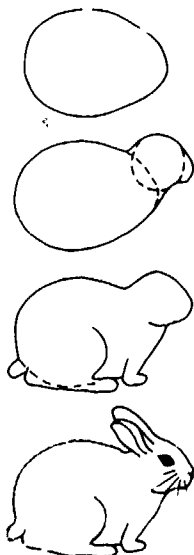
## MATERIALS

Diagram 1-3



Guinea pig

Diagram 1-4



Rabbit

## TEACHING STRATEGIES

IS THERE ANYTHING ELSE BESIDES FEEDING AND WATERING THAT WE MUST DO FOR (name of animal)?

Organize the class into three groups and set up a schedule to take care of the animal.

Group 1. Purchasing food and other supplies needed for the animal.

Group 2. Feeding and watering the pet

Group 3. Cleaning the animal's cage.

Each student member of a group should have a week or day in which his responsibility is caring for the pet. The responsibilities should rotate from group to group throughout the year.

Suggested extensions:

1. Many easy-reading children's books are available on the care of animals and particularly those animals common as household pets. You may wish to obtain such a book to read and discuss with your students.
2. Students might enjoy keeping a record of their pet's behavior throughout the year. They could do this by drawing pictures of the animal or using the camera to take pictures of the animal from time to time.



## TEACHING STRATEGIES

THING ELSE BESIDES FEEDING AND  
WE MUST DO FOR (name of animal)?

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## ANTICIPATED STUDENT BEHAVIORS

ACTIVITY 1-1

9

Student:

--respond, "Clean his cage," "Give him air,"  
"Love him."

 HAVE YOU  
INVOLVED  
ALL  
STUDENTS?

ACTIVITY 1-1

10

**MATERIALS**

**TEACHING STRATEGIES**

See Diagrams 1-1 through 1-4 to assist you and your students if you attempt to draw the pet. This would be an excellent art lesson for your students.

TEACHING STRATEGIES	ANTICIPATED STUDENT BEHAVIORS
<p>rough 1-4 to assist you and your empt to draw the pet. This would be an n for your students.</p>	

# Activity 1-14 "An Animal in Class"

Teacher

Activity name suggested by class:

 BCS USE: Post Tally Rev  
 Day 1 Day 2 Day 3 Day 4 Day 5 Day 6

1. Date taught (month and date, e.g. 11/2)						
2. Minutes of class time on science each day						
3. Minutes of preparation each day						
4. Students absent on each date (Use IE Number)						

5. Interest of class as expressed by apparent attention to what is happening.

 Number of students responding with Name students you noted especially:  
 (Number)

HIGH INTEREST	_____
MODERATE INTEREST	_____
INDIFFERENCE	_____
MODERATE RESISTANCE	_____
STRONG DISLIKE	_____
HARD TO RATE	_____

 6. Equipment in kit: None Satisfactory Too Difficult  
 needed fragile complicated to use  
 7. Equipment in kit: None Easy hard to get, Unobtainable,  
 needed to get but okay add to kit add to kit

Materials used	Worksheet #	Game #	Slides (show slide pos.) #	Transparency #	Card(s) #	Tape(s) #	Other #
Worthwhile as is							
Revised slightly							
Revised							
Worthless unit							

 9. Maturity level is just right too childish too mature Explain:  
 10. Vocabulary level is just right too easy too difficult Explain:  
 11. Were teacher instructions clear enough to follow? Yes No - Pages and Problems  
 12. Were slides to class and reviews of slides helpful? Yes No - Why not?  
 13. Did the activity fulfill the purpose stated by the guide? Yes No - Comment:  
 14. Were any parts of this activity omitted? No Yes - Explain:



Materials used:	Worksheets	Game	Slides (show slid. nos.)	Transparency	Card(s)	Tap(s)	Other
	#   #	#	#   #	#   #	#	#	#
Worthwhile as is							
Reviser's reply							
Reviser's reply							
Worthless: omit							

9. Maturity level is just right too childish too mature Explain:
10. Vocabulary level is just right too easy too difficult Explain:
11. Were teacher instructions clear enough to follow Yes No - Pages and Problems
12. Were clues to success and reviews of success helpful? Yes No - Why not.
13. Did the activity fulfill the purpose stated by the Guide? Yes No - Comment:
14. Were any parts of this activity omitted? No Yes - Explain:
15. Your rating of this activity\*  
 of value--needs the Worth salvaging--mak. Worthless  
 ---keep as is reviser suggested major changes described ---drop it  
 -----

SPECIFIC CONCERN: ABOUT THIS ACTIVITY.

16. There are also points in activity that are good but need to be changed.  
 What parts of the activity are good? What parts need to be changed?  
 Page(s) \_\_\_\_\_

17. Did students have difficulty with the activity? Needs of material?  
 Yes No

18. What is your classroom animal?  
 Has it presented any problems this far as a classroom pet?

19. Concern (or questions) about content:

20. Messages for staff (read immediately):

B. Evaluation: EMH Feedback Form 1c

Have you answered each question, attached annotated Guide, your revisions, student work, etc.?

Teacher \_\_\_\_\_

# REPORT OF WHAT HAPPENED AND SUGGESTIONS FOR REVISION

1. Whenever practical write all over your second copy of the Guide. Tear out the activity and send the annotated Guide in with this form.
2. Make specific suggestions - exactly what you think should appear in the Guide.
3. Tell us what you did. Think of what you needed, what you had to work out for yourself, how you presented something to make it go over.
4. Describe the revisions you said were needed in answering the questions on the other side of this form.
5. As a reminder of things that help in revision, read through the following list and check off things you want to be sure to note this time. (We know you can't tell about everything every time!)

## THE LESSON

- ☐ how you organized materials or class.
- ☐ things added (a question, a picture, etc.).
- ☐ equipment, supplies, visual aids.
- ☐ things that went wrong, misunderstandings
- ☐ what you would do differently or avoid next time.
- ☐ turmoil in the class caused by the activity, or disruptive students, or interruptions, and how you dealt with them.

## THE STUDENTS

- ☐ who had problems and what they were.
- ☐ how someone "caught on" (or who never did).
- ☐ who was really "turned off" (or on).
- ☐ reactions of parents, teachers, students.
- ☐ special evidence of learning or applying ideas.
- ☐ disruptive students, or interruptions,



## Me and my Environment

### OBJECTIVE FOCUS FOR THIS ACTIVITY

#### UNIT GOALS:

2. Recognize the environmental components essential for all living things.
3. Create a greater interest in, and a more sensitive attitude toward, his environment.

#### CORE A OBJECTIVES:

2. Identify a wide variety of things in his environment.
3. Identify some qualities that make environments alike or different.
4. Determine the relationship he has with other living things.
5. Infer the needs of plants and animals.

### MATERIALS

### TEACHING STRATEGIES

#### Activity 1-2. A Pond In The Classroom

*Students have already secured a land animal to serve as a part of their class environment for the year. In this activity, they will establish an aquatic environment containing aquatic animals and plants. In so doing they will identify the components which are essential for this group of living things. The student's understanding of his own needs will be reinforced and at the same time an additional measure of responsibility in caring for something will be provided.*

HIS ACTIVITY

size the environmental components  
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ve attitude toward, his environment.

CS:

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ACHING STRATEGIES

d In The Classroom

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UNIT I.                      EXPLORING MY ENVIRONMENT

CORE A.                    SENSING MY ENVIRONMENT

ACTIVITY 1-2.      A POND IN THE CLASSROOM



ANTICIPATED STUDENT BEHAVIORS

*At the end of this activity, each student should:*

- have distinguished between land animals and water animals.
- have participated in deciding what living things to put into the pond.
- have participated in deciding where to get the pond plants and animals.
- have participated in preparing the pond.
- have been assigned or volunteered duty in caring for and maintaining the pond.

# ACTIVITY 1-2

12

## MATERIALS

- \*Container suitable for a pond or aquarium, i.e., hard plastic kiddie pool 3 1/2' X 3 1/2', baby bathtub, concrete or mortar mixing tub
- \*Sand to cover the bottom of the chosen container
- \*Pond animals
- \*Food - suitable for animals selected (consult your local pet store)
- \*Rock(s)
- \*Weighted, floating thermometer (optional)
- \*Pond plants

\*Not furnished in materials kit

## TEACHING STRATEGIES

### Teacher Preparation:

1. Several days will be needed in order to set up a pond community. A pond is recommended because it is easy to care for and less expensive to maintain, although an aquarium would also be satisfactory. The larger the pond the easier it is to maintain. Because of its size and shape, a pond requires less care than an aquarium. The relatively shallow depth and large surface area eliminates the need for an aerator. If, however, another container is more suitable for your situation, use it and tell us about it.
2. There are many possible animals that could be included in the pond. Salamanders, tadpoles, minnows, turtles, tropical fish (guppies, platties, gouramis), native local fish, and scavengers (crawdads, snails, bottom feeders) are some of the animals that are easiest to care for and most suitable for classroom pond life.
3. In choosing plants for the pond, the water temperature and available light source must be considered. If you have any doubts as to which plants to choose, consult the biology teacher in your school or the dealer of a local pet shop. Narrow Sagittaria, Hornwort, Cabomba (Washington Grass), Vallisneria (Tape Grass) and Myriophyllum (Foxtail) are some plants that might be obtained most easily and are suitable for a classroom pond.

## TEACHING STRATEGIES

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Some possible animals that could be in the pond. Salamanders, tadpoles, minnows, tropical fish (guppies, goldfish, etc.), native local fish, and crayfish, snails, bottom feeders) are the animals that are easiest to maintain and most suitable for classroom pond.

For plants for the pond, the water temperature and available light source must be considered. If you have any doubts as to which plants to choose, consult the biology teacher in your school or a dealer of a local pet shop. Elodea, Hornwort, Cabomba (Washington), Isneria (Tape Grass) and Myriophyllum are some plants that might be obtained and are suitable for a classroom pond.

## ANTICIPATED STUDENT BEHAVIORS

## MATERIALS

## TEACHING STRATEGIES

4. The following is a suggested sequence for setting up the pond:
  - a. Purchase a hard plastic kiddie pool approximately 3 1/2' X 3 1/2' in size. (Use a substitute container such as a plastic bathtub, plastic concrete mixer, or an aquarium only if you do not have space for the kiddie pool.)
  - b. Cover the bottom with about 1" to 2" of clean rinsed sand.
  - c. Place a large rock which protrudes above the water near the center of the pond so that frogs, toads, and turtles can get up and out of the water occasionally.
  - d. Add water from the tap to a level of about 3 1/2" from the top. Let the water set for at least twenty-four hours before introducing any living things. If this is not done, the chlorine in the water may harm the plants and animals added.
  - e. Consult the suggested list of living things and have students help in deciding what to put in the pond. If there is a natural pond nearby, this can be an excellent source for collecting living things. The pond should have a combination of plants and animals, including fish, turtles, and scavengers. (Scavengers such as snails, tropical catfish, or crawdads are necessary to keep the pond clean.)
  - f. Pet shops generally put the snails, fish and other animals in plastic bags filled with

## TEACHING STRATEGIES

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## ANTICIPATED STUDENT BEHAVIORS

ACTIVITY 1-2

13



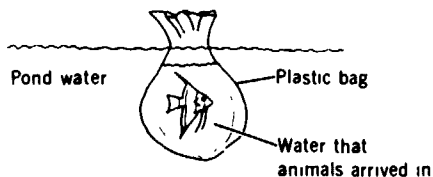
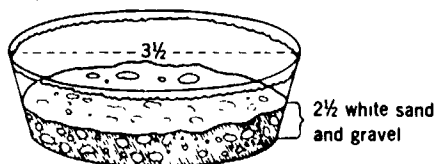
## ACTIVITY 1-2

14

### MATERIALS

Diagram 1-5

Let water stand 24 hours before live material is put in



### TEACHING STRATEGIES

water. Float these bags in the pool for about thirty minutes. (See Diagram 1-5.) This will allow the animals to adjust gradually to the temperature and other conditions in the pond.

- g. If tropical fish are put in the pond, the water temperature should not go below 65°. A weighted, floating thermometer would be useful as a constant check.
- h. Do not overstock the pond. A general rule is to allow five square inches of surface area per adult fish (1" long). Multiply the diameter of the pond by 22/7 and divide by 5. As an example: for a pool 3 1/2' in diameter,  $22/7 \times 42" = 132$  square inches, divided by 5 equals 26 -- the pond is large enough for 26 fish.
- i. If living things from a natural pond or stream are combined with animals from a pet shop, isolate them in a salt water solution (1 tsp./gal.) overnight to kill any parasites attached to them before placing them in the classroom pond.

Because of their nature, some animals are not well-suited for a classroom pond. Suggest as choices only animals which you can secure, maintain, and live with for the year.

**NOTE:** At a point in this activity when many students are involved, or upon entering or leaving the room, tape-record the sounds in the room for a five-minute period. Make sure that students are unaware of the recording. Save the tape for use in Activity 1-7.

## ING STRATEGIES

## ANTICIPATED STUDENT BEHAVIORS

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## MATERIALS

## TEACHING STRATEGIES

Ask the students to suggest possible plants and animals to include in the pond. Discuss them and determine as a class whether they would be appropriate or not. Through discussion you should be able to eliminate suggestions which are not appropriate and still have the students feel that the class has participated in making the final choice. If the students are not familiar with pond plants and animals suggest some plants and animals to include and explain what they are and why they would be appropriate for the pond.

Begin by saying:

WHAT LIVING THING HAS MOVED INTO OUR CLASSROOM?

WHERE DID (name of animal) LIVE BEFORE COMING TO LIVE WITH US?

If students respond with "the pet store," ask:

IF (name of animal) LIVED OUTSIDE, OR IN HIS NATURAL HOME, WHERE WOULD HE LIVE?

Continue by saying:

OUR ANIMAL WOULD LIVE ON THE LAND IN THE (name of the animal's natural habitat). DO ALL ANIMALS LIVE ON THE LAND?

IF THEY DON'T LIVE ON THE LAND, WHERE WOULD THEY LIVE?

WHERE ARE SOME OF THE PLACES THAT YOU CAN FIND ANIMALS LIVING IN THE WATER?

## TEACHING STRATEGIES

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(animal) LIVE BEFORE COMING

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LIVED OUTSIDE, OR IN HIS  
WOULD HE LIVE?

LIVE ON THE LAND IN THE (name  
natural habitat). DO ALL ANIMALS

ON THE LAND, WHERE WOULD THEY

THE PLACES THAT YOU CAN FIND  
THE WATER?

## ANTICIPATED STUDENT BEHAVIORS

ACTIVITY 1-2

15

Students:

--respond with the name of the classroom animal  
chosen in Activity 1-1.

--respond, "Pet store," "Forest," "Fields," "Trees."

--respond, "Forest," "Fields," "Trees," "Under-  
ground," "Land."

--respond, "No."

--respond, "Water," "Air."

--respond, "Lake," "River," "Stream," "Pond."

ACTIVITY 1-2

16

MATERIALS

TEACHING STRATEGIES

WOULD IT BE POSSIBLE TO BRING ONE OF THESE PLACES INTO OUR CLASSROOM SO WE COULD WATCH SOME WATER ANIMALS?

LET'S SEE IF WE CAN THINK OF A WAY TO BUILD A POND AND PUT WATER PLANTS AND ANIMALS IN IT.

IF WE COULD DO WHAT WE WANTED TO, WHAT ARE SOME WAYS WE MIGHT BUILD A POND IN CLASS?

GIVE STUDENTS  
TIME  
TO  
THINK

ACCEPT ALL  
ENCOURAGE

List all the major suggestions given on the chalkboard and discuss each as to its appropriateness and feasibility. If students have difficulty coming up with any suggestions, offer a few ideas of your own and encourage discussion.

Then say:

OTHER GROUPS OF STUDENTS IN OTHER SCHOOLS HAVE HAD GREAT SUCCESS IN BUILDING A POND USING A KIDDIE PLASTIC SWIMMING POOL (or substitute whatever container you used). SINCE THIS IS THE RIGHT SIZE (still referring to your choice of container) AND EASY TO GET, WE WILL USE ONE IN BUILDING OUR POND TOO.

## TEACHING STRATEGIES

ABLE TO BRING ONE OF THESE  
CLASSROOM SO WE COULD WATCH  
FISH?

CAN THINK OF A WAY TO BUILD  
A POND IN CLASS?

WHAT WE WANTED TO, WHAT ARE  
THE THINGS WE COULD BUILD A POND IN CLASS?

GIVE STUDENTS  
TIME  
TO  
THINK



ACCEPT ALL IDEAS AND  
ENCOURAGE IMAGINATION

Suggestions given on the chalkboard and  
discuss appropriateness and feasibility. If  
anybody coming up with any suggestions,  
accept them and encourage discussion.

STUDENTS IN OTHER SCHOOLS HAVE  
SUGGESTIONS IN BUILDING A POND USING A  
SWIMMING POOL (or substitute  
what you used). SINCE THIS IS  
STILL REFERRING TO YOUR CHOICE  
OF EASY TO GET, WE WILL USE  
YOUR POND TOO.

## ANTICIPATED STUDENT BEHAVIORS

Students:

--respond, "No," "We'd have to flood the room,"  
"Impossible," "Maybe."

--suggest a variety of ideas, some of which might  
include a swimming pool, bowl, tub, aquarium,  
jar, etc. Some students might still think it's  
impossible to put a pond in their room.

## MATERIALS

## TEACHING STRATEGIES

Let several students set up the pool (aquarium, etc.) and fill it with water. Say:

WE WILL ALLOW THE WATER TO STAND AT LEAST TWENTY-FOUR HOURS BEFORE WE ADD ANYTHING.

HOW MANY OF YOU HAVE MADE A PLACE FOR WATER ANIMALS AND PLANTS TO LIVE AT YOUR HOME?

FINE. CAN YOU TELL US WHY THE WATER MUST STAND A WHILE BEFORE WE USE IT FOR OUR WATER ANIMALS?

If pupils do not know about the presence of chlorine as a purifying agent in water, explain that the water we drink or swim in is treated with the chemical chlorine to make it safe. Ask:

HAVE ANY OF YOU NOTICED THE SMELL OF THE WATER AT A SWIMMING POOL? THAT SMELL IS SOME OF THE CHLORINE COMING OUT OF THE WATER INTO THE AIR. WATER WITH CHLORINE IS NOT SAFE FOR WATER ANIMALS TO LIVE IN. IF WE LET THE WATER STAND FOR SEVERAL HOURS, THE CHLORINE WILL LEAVE THE WATER. IT WILL THEN BE SAFE FOR OUR WATER ANIMALS. LETTING THE WATER STAND AND PUTTING SAND IN THE CONTAINER WILL MAKE THIS ARTIFICIAL POND MORE LIKE A REAL POND. THE AREA AND SETTING IN WHICH AN ANIMAL LIVES IS CALLED ITS HABITAT.

Write the word "habitat" on the chalkboard and say:

THUS WE HAVE CREATED A POND HABITAT FOR ANY ANIMALS WE THINK SHOULD LIVE IN THE POND.

## TEACHING STRATEGIES

Set up the pool (aquarium, etc.)  
Say:

WATER TO STAND AT LEAST  
BEFORE WE ADD ANYTHING.

HAVE MADE A PLACE FOR WATER  
S TO LIVE AT YOUR HOME?

LL US WHY THE WATER MUST  
ORE WE USE IT FOR OUR WATER

not know about the presence of  
a purifying agent in water,  
the water we drink or swim in  
with the chemical chlorine to  
Ask:

YOU NOTICED THE SMELL OF THE  
SWIMMING POOL? THAT SMELL IS  
CHLORINE COMING OUT OF THE  
THE AIR. WATER WITH CHLORINE  
FOR WATER ANIMALS TO LIVE IN.  
E WATER STAND FOR SEVERAL  
CHLORINE WILL LEAVE THE WATER.  
BE SAFE FOR OUR WATER ANIMALS.  
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ER WILL MAKE THIS ARTIFICIAL POND  
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ANIMAL LIVES IS CALLED ITS HABITAT.

at" on the chalkboard and say:

ATED A POND HABITAT FOR ANY  
SHOULD LIVE IN THE POND.

## ANTICIPATED STUDENT BEHAVIORS

ACTIVITY 1-2

17

Students:

--show hands.

--respond, "No," "To make water pure," "To let  
water warm up," "I don't know."



ACTIVITY 1-2

18

MATERIALS

TEACHING STRATEGIES

WHAT DO WE PUT IN THE POND AND WHERE DO WE GET THE THINGS TO PUT IN?

IF WE WANTED TO HAVE OUR POND BE AS MUCH AS POSSIBLE LIKE A REAL POND, WHERE WOULD BE THE BEST PLACE TO GET THE PLANTS AND ANIMALS?

If there is no pond nearby, ask:

SINCE THERE IS NO REAL POND NEARBY, WHERE WOULD BE THE SECOND BEST PLACE TO GET SOME PLANTS AND ANIMALS FOR OUR POND?

Select a collection committee to obtain the plants and animals from a pond, or tell the students you will purchase them from a pet store. Then say:

WE'VE DECIDED HOW TO MAKE A POND IN OUR CLASSROOM AND WHERE TO GET SOME PLANTS AND ANIMALS TO PUT INTO THE POND. BUT WE HAVE ONE MORE PROBLEM. WHAT KINDS OF WATER PLANTS AND ANIMALS SHOULD WE GET?

List all the suggestions given on the chalkboard including your own if you wish. Discuss each animal or plant mentioned using these and/or similar questions:

IS IT A POND ANIMAL?

WILL IT HURT THE OTHER ANIMALS?

DOES IT HELP KEEP THE POND CLEAN?

WILL IT JUMP OUT AND GET AWAY?

## TEACHING STRATEGIES

IN THE POND AND WHERE DO WE  
TO PUT IN?

DO HAVE OUR POND BE AS MUCH AS  
A REAL POND, WHERE WOULD BE THE  
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IF THERE IS NO REAL POND NEARBY, WHERE  
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AND ANIMALS FOR OUR POND?

Form a committee to obtain the plants and  
animals, or tell the students you will  
go to a pet store. Then say:

HOW TO MAKE A POND IN OUR  
WHERE TO GET SOME PLANTS AND  
PUT INTO THE POND. BUT WE HAVE  
A PROBLEM. WHAT KINDS OF WATER  
ANIMALS SHOULD WE GET?

Questions given on the chalkboard  
if you wish. Discuss each animal or  
ask these and/or similar questions:

ANIMAL?

THE OTHER ANIMALS?

KEEP THE POND CLEAN?

PUT AND GET AWAY?

## ANTICIPATED STUDENT BEHAVIORS

Students:

--suggest getting fish, snails, plants, etc. from  
a store, a pond, stream, lake, or local water  
hole.

--respond by suggesting that the plants and  
animals be obtained from a real pond.

--suggest purchasing them from a pet store.

--suggest getting a variety of plants and animals  
for the pond such as guppies, goldfish, snails,  
frogs, toads, turtles, weeds, etc.

## MATERIALS

## TEACHING STRATEGIES

This would be a good chance to give the students information about pond animals such as scavengers, and about the names, habits, and care of fish they are unfamiliar with. There are many simple books available from pet shops or bookstores that you might find helpful.

Using the calculation given at the beginning of the activity, determine the proper number of fish to include, and have the students select the kinds and number of animals and plants for their pond.

Purchase or collect the suggested living things, the appropriate food, and all materials needed to put in the pond. If possible, have one or more students accompany you to the store to assist in the purchase. The clerk may have some suggestions also.

PURCHASE  
COLLECTION

Place the container and all materials purchased and gathered where they are visible and allow all students to observe and examine them. Do not have the plants and animals in the pond. The students should participate in the assembly of the pond as much as possible.

Now have the students assist you in preparing the pond and placing the living things in it following the suggested sequence in the Teacher Preparation.

When the living things have been placed in the pond, ask:

WHAT WILL WE HAVE TO DO TO TAKE CARE OF OUR  
NEW ANIMALS?

WHAT KIND OF FOOD DO THEY NEED?

## ING STRATEGIES

nce to give the students informa-  
such as scavengers, and about the  
of fish they are unfamiliar with.  
or available from pet shops or  
t find helpful.

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THEY NEED?

## ANTICIPATED STUDENT BEHAVIORS

ACTIVITY 1-2

19

Students:

--place animals and plants carefully in the pond.

--respond, "Feed them," "Clean the pond and the  
water."

--respond, "Don't know," "Fish food," "Turtle food,"  
etc.

ACTIVITY 1-2

20

MATERIALS

TEACHING STRATEGIES

IF WE DON'T KNOW WHAT THEY EAT, HOW CAN WE  
FIND OUT?

If some students mention cleaning or changing the water, point out that the scavengers do this for them. If the right kinds and numbers of animals have been selected to begin with the pond should stay clean.

HOW IS TAKING CARE OF THESE WATER ANIMALS  
LIKE TAKING CARE OF OUR LAND ANIMAL?

HOW IS TAKING CARE OF THEM DIFFERENT?

Select a student to take a picture of the completed pond. Students may want to write a story or keep a log to go with the picture.

From time to time we will request a number of pictures to provide to the Polaroid Corporation to illustrate how their cameras were used in this curriculum.

Organize the class into groups and set up a schedule for care of the pond. Do this in a manner similar to the schedule set up for the land animal. The responsibilities should be to:

1. Purchase food and other supplies needed for the animals.
2. Feed the animals. (Be careful not to overfeed.)

## TEACHING STRATEGIES

WHAT THEY EAT, HOW CAN WE

tion cleaning or changing the water,  
scavengers do this for them. If the  
ers of animals have been selected to  
should stay clean.

ARE OF THESE WATER ANIMALS  
OF OUR LAND ANIMAL?

ARE OF THEM DIFFERENT?

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he land animal. The responsibilities

d other supplies needed for the

. (Be careful not to overfeed.)

## ANTICIPATED STUDENT BEHAVIORS

Students:

--respond, "Look in books," "Ask at the pet  
shop," "Ask the science teacher," etc.

--respond, "Both need food, air, water," etc.

--respond, "You have to clean the cage of the land  
animal, and the pond will take care of itself,"  
"You have to give the land animal water each  
day," etc.

### MATERIALS

### TEACHING STRATEGIES

3. Keep water set aside for maintaining the water level. This should be tap water that has been allowed to sit for at least twenty-four hours so that it loses its chlorine. If you wish to use tap water immediately you may add a dechlorinating chemical obtained from any local pet store. It is an unnecessary expense, however, if you have enough room to allow the necessary quantity of water to stand for the twenty-four hour period.

## TEACHING STRATEGIES

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## ANTICIPATED STUDENT BEHAVIORS

ACTIVITY 1-2

(21)



UNIT I, CORE A  
ACTIVITY 1-2: "A Pond In The Classroom"

Activity name suggested by class: \_\_\_\_\_

Teacher \_\_\_\_\_

BSCS USE: Post \_\_\_\_\_ Tally \_\_\_\_\_ Rev \_\_\_\_\_

Day 1 Day 2 Day 3 Day 4 Day 5 Day 6

1. Date taught (month and date, e.g. 11/2)						
2. Minutes of class time on science each day						
3. Minutes of preparation each day						
4. Students absent on each date (Use ID Number)						

5. Interest of class as expressed by apparent attention to what is happening.

Number of students responding with: \_\_\_\_\_ Name students you noted especially: \_\_\_\_\_  
(Number)

HIGH INTEREST	_____
MODERATE INTEREST	_____
INDIFFERENCE	_____
MODERATE RESISTANCE	_____
STRONG DISLIKE	_____
HARD TO RATE	_____

6. Equipment in kit: ☐ None ☐ Satisfactory ☐ Too fragile ☐ Too complicated ☐ Difficult to use

7. Equipment I got: ☐ None ☐ Easy to get ☐ Hard to get, but okay ☐ Hard to get, add to kit ☐ Unobtainable, add to kit

Materials used:	Worksheet #	Game #	Slides (show slide nos.)	Transparency #	Card(s) #	Tape(s) #	Other #
Worthwhile as is							
Revise slightly							
Revise much							
Worthless: omit							

9. Maturity level is just right ☐ too childish ☐ too mature Explain: \_\_\_\_\_
10. Vocabulary level is just right ☐ too easy ☐ too difficult Explain: \_\_\_\_\_
11. Were teacher instructions clear enough to follow? ☐ Yes ☐ No - Pages and Problem: \_\_\_\_\_
12. Were clues to success and reviews of success helpful? ☐ Yes ☐ No - Why not? \_\_\_\_\_
13. Did the activity fulfill the purpose stated by the Guide? ☐ Yes ☐ No - Comment: \_\_\_\_\_
14. Were any parts of this activity omitted? ☐ No ☐ Yes - Explain: \_\_\_\_\_
15. Your rating of this activity: ☐ Worthwhile ☐ Of value--needs the ☐ Worth salvaging--make ☐ Worthless  
--keep as is revision suggested major changes described --try it

	#	#	#	#	#	#	#	#	#	#	#
Worthwhile as is											
Revise slightly											
Revise much											
Worthless: omit											

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12. Were clues to success and reviews of success helpful? ☐ Yes ☐ No - Why not?
13. Did the activity fulfill the purpose stated by the Guide? ☐ Yes ☐ No - Comment:
14. Were any parts of this activity omitted? ☐ No ☐ Yes - Explain:

15. Your rating of this activity:

☐ Worthwhile ☐ Of value--needs the ☐ Worth salvaging--make ☐ Worthless  
--keep as is revision suggested major changes described --drop it

SPECIFIC CONCERNS ABOUT THIS ACTIVITY:

16. There are always parts of activities that are good and need not be changed.  
What parts of this activity should be retained when the curriculum is revised?  
Page(s) \_\_\_\_\_;

17. Did students understand the reason for setting the water aside before using it in the pool? ☐ Yes ☐ No: Comment.

18. Were students knowledgeable enough to recommend plants and animals for the class pond?  
☐ Yes ☐ No: Comment.

19. Did students help assemble the class pond?  
☐ Yes ☐ No  
If so, in what ways? If not, why not?

20. Concern (or questions) about content:

21. Messages for staff (read immediately):

Evaluation: EMH Feedback Form 1c

Have you answered each question, attached annotated Guide, your revisions, student work, etc.?

UNIT I, CORE A  
ACTIVITY 1-2: "A Pond In The Classroom"

Teacher \_\_\_\_\_

REPORT OF WHAT HAPPENED AND SUGGESTIONS FOR REVISION

1. Whenever practical write all over your second copy of the Guide. Tear out the activity and send the annotated Guide in with this form.
2. Make specific suggestions - exactly what you think should appear in the Guide.
3. Tell us what you did. Think of what you needed, what you had to work out for yourself, how you presented something to make it go over.
4. Describe the revisions you said were needed in answering the questions on the other side of this form.
5. As a reminder of things that help in revision, read through the following list and check off things you want to be sure to note this time. (We know you can't tell about everything every time!)

THE LESSON

- ☐ how you organized materials or class.
- ☐ things added (a question, a picture, etc.).
- ☐ equipment, supplies, visual aids.
- ☐ things that went wrong, misunderstandings.
- ☐ what you would do differently or avoid next time.
- ☐ turmoil in the class caused by the activity, or disruptive students, or interruptions, and how you dealt with them.

THE STUDENTS

- ☐ who had problems and what they were.
- ☐ how someone "caught on" (or who never did).
- ☐ who was really "turned off" (or on).
- ☐ reactions of parents, teachers, students.
- ☐ special evidence of learning or applying ideas.



## Me and my Environment

### OBJECTIVE FOCUS FOR THIS ACTIVITY

#### UNIT GOALS:

1. Explore his immediate environment through a variety of sensory experiences and physical contacts.
3. Create a greater interest in, and a more sensitive attitude toward, his environment.

#### CORE A OBJECTIVES:

1. Expand the use of his senses.
2. Identify a wide variety of things in his environment.
3. Identify some qualities that make environments alike or different.

### MATERIALS

### TEACHING STRATEGIES

#### Activity 1-3. Taking A Closer Look

*This activity will briefly introduce and define the word environment and then allow the student to begin carefully exploring his environment through the use of his senses. Experiences for providing the student with the opportunity to extend his powers of observation are included. The student will realize that many interesting details are discovered when something is examined carefully with a magnifier.*

ACTIVITY

his immediate environment through  
of sensory experiences and  
contacts.

greater interest in, and a more  
attitude toward, his environment.

use of his senses.

a wide variety of things in his  
ent.

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ING STRATEGIES

Closer Look

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UNIT I.                      EXPLORING MY ENVIRONMENT

CORE A.                      SENSING MY ENVIRONMENT

ACTIVITY 1-3.              TAKING A CLOSER LOOK



**BSCS**

**ANTICIPATED STUDENT BEHAVIORS**

*At the end of this activity, each student should:*

- hrve suggested a definition of the word environment.*
- be able to define environment as, "Things around me."*
- have participated in the observation box game.*
- have helped to complete Worksheet 1-1.*
- have identified the five senses.*
- have learned to use the magnifier as a tool for observation.*
- iave discovered that objects display more varied and interesting characteristics when examined more closely.*
- have had an opportunity to take a magnifier home and use it.*

ACTIVITY 1-3

24

MATERIALS

Worksheet 1-1

Slide 1-1

\*Large shoeboxes (opaque with lids) one for each team

\*Collection of items for the shoeboxes:

\*6 rocks (rough, smooth, flat, round, large, small)

\*4 twigs - fresh, dried (variety)

\*2 shells

\*4 leaves - different shapes, sizes, fresh, dried

\*Piece of weathered wood

Magnifying lenses

\*Stopwatch or watch with second hand

\*35mm Slide projector

\*Not furnished in materials kit

TEACHING STRATEGIES

Teacher Preparation:

1. Each team will need a large shoebox containing the collection of objects listed in the materials column. (Revise the list according to the availability of the items.) It is important that the contents of each box be identical. Have these prepared prior to class time.
2. Since the students will be given specified times for observation, you will need a stop watch, clock, or a watch with a second hand.

Write "environment" on the chalkboard and ask:

HOW MANY OF YOU HAVE EVER HEARD OF THIS WORD?

Point to and pronounce the word "environment."

SOME OF YOU MIGHT HAVE HEARD THIS WORD ON TV OR ON THE RADIO. WHAT DO YOU THINK IT MEANS?

As meanings for the word are suggested write them on the chalkboard. Do not reinforce any of the suggestions or give the meaning of environment at this time.



## TEACHING STRATEGIES

ation:

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THE RADIO. WHAT DO YOU THINK

or the word are suggested write them on the  
Do not reinforce any of the suggestions  
meaning of environment at this time.

## ANTICIPATED STUDENT BEHAVIORS

Students:

--respond by raising hands if they recognize the  
word.

--suggest various meanings of the word which  
might include such things as, "Pollution,"  
"Everything," "Plants and animals."



## MATERIALS

## TEACHING STRATEGIES

Have students in groups of threes take a picture of a scene that they think will help define their environment. Hold a class discussion in which pupils can tell the feature of his environment that the picture shows.

Have pupils label photos. Store them for use later on in this activity.

After all the photographic scenes have been discussed, continue by saying:

THE WORD ENVIRONMENT MEANS THINGS AROUND US  
THAT WE SEE, SMELL, HEAR, TOUCH, OR TASTE.  
MANY PEOPLE ARE CONCERNED ABOUT WHAT'S  
HAPPENING TO OUR ENVIRONMENT. YOU AND I MAY  
FIND THAT WE ARE OR ARE NOT CONCERNED ABOUT  
IT, BUT BEFORE WE CAN DECIDE WE NEED TO KNOW  
MORE ABOUT WHAT OUR ENVIRONMENT IS.

WHAT'S HAPPENING TO OUR ENVIRONMENT THAT  
CAUSES MANY PEOPLE TO BE WORRIED OR CONCERNED?

Because of the treatment and widespread use of the word "environment" by the media, a few students should be able to suggest such things as pollution as reasons for concern.

PERHAPS IF WE LEARN MORE ABOUT OUR ENVIRONMENT  
WE WILL BE BETTER ABLE TO TAKE CARE OF IT  
PROPERLY.

WHAT WOULD YOU DO IF I ASKED YOU TO USE YOUR  
SENSES TO FIND OUT ABOUT YOUR ENVIRONMENT?

WHAT ARE SENSES?



## TEACHING STRATEGIES

Groups of three take a picture of a  
link will help define their environment.  
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environment that the picture shows.

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D OUT ABOUT YOUR ENVIRONMENT?

ES?

## ANTICIPATED STUDENT BEHAVIORS

ACTIVITY 1-3

25

Students:

--draw on prior experience and suggest, "Pollution,"  
"Too crowded," "Dirty water."

--respond, "Smell," "Look," "Touch," etc.



--will probably have previously studied the senses  
and respond with eyes, ears, nose, tongue,  
fingers or smell, see, hear, touch and taste.

ACTIVITY 1-3

26

MATERIALS

Worksheet 1-1

Date	Name
	 
5 Seconds	Things Seen
10 Seconds	
1 Minute	
5 Minutes	

TEACHING STRATEGIES

LET'S BEGIN BY USING OUR SIGHT, OUR EYES, TO LOOK MORE CLOSELY AT OUR ENVIRONMENT.

HOW LONG DOES IT TAKE YOU TO REALLY SEE SOMETHING AROUND YOU IN YOUR ENVIRONMENT?

LET'S FIND OUT.

Now divide the class into teams of three and place the closed boxes on a table at the front of the room.

Then say:

WE ARE GOING TO PLAY AN OBSERVATION GAME USING THESE BOXES. (Point to the boxes.) IT IS VERY IMPORTANT TO KEEP THE BOXES CLOSED UNTIL WE ARE READY TO BEGIN.

Now distribute Worksheet 1-1 to each team.

IN THIS GAME YOU WILL HAVE A CERTAIN AMOUNT OF TIME TO LOOK AT THE THINGS IN YOUR BOX. WHEN I SAY "OPEN" ONE TEAM MEMBER WILL OPEN THE BOX AND EACH OF YOU WILL LOOK CAREFULLY AT WHAT IS IN THE BOX. IT IS IMPORTANT THAT EACH OF YOU LOOK BECAUSE YOU ARE ALL WORKING TOGETHER AS PART OF A TEAM AND WILL BE HELPING EACH OTHER TO WIN.

AT THE END OF THE TIME I WILL SAY "STOP." ONE PERSON MUST THEN QUICKLY CLOSE THE BOX. IT IS IMPORTANT THAT YOU CLOSE IT IMMEDIATELY. AFTER IT HAS BEEN CLOSED, WE WILL FILL OUT THE FIRST ROW OF OUR WORKSHEET.

Instruct students to look at their worksheets.

## ING STRATEGIES

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## ANTICIPATED STUDENT BEHAVIORS

Students:

--suggest, "A few minutes," "A long time." "A  
second," "Not very long."

## MATERIALS

Date \_\_\_\_\_ Time \_\_\_\_\_

	Things Seen
5 Seconds	
10 Seconds	
1 Minute	
5 Minutes	

Slide 1-1

## TEACHING STRATEGIES

IN ORDER TO DO THIS YOU WILL HAVE TO TRY TO REMEMBER HOW MANY THINGS YOU SAW AND THEN WRITE THESE THINGS UNDER THE WORDS "THINGS SEEN."

THE OBJECT OF THE GAME IS TO SEE WHICH TEAM WILL BE ABLE TO REMEMBER AND WRITE DOWN THE MOST THINGS AFTER OBSERVING WHAT IS IN THE BOX FOR A CERTAIN PERIOD OF TIME.

Now distribute one box per team and remind the students not to open them until you say "Open." They are to look only during the time intervals. They will have a chance to record what they see later. When all have received their boxes, each team should select one person to open and close the box. Then say:

READY -----OPEN!

GAME TIME

Stop the teams at the end of exactly five seconds and instruct them to fill out their worksheets.

THIS FIRST TIME YOU HAD FIVE SECONDS TO LOOK IN THE BOX. NOW THAT YOU'RE FINISHED WRITE THE THINGS YOU SAW IN THE FIVE SECOND ROW ON YOUR WORKSHEET. (Point to the five second row on the slide of Worksheet 1-1.)

Have each team select a person to be the recorder. The recorder will write collective information on the team's worksheet. Tell the students not to be concerned about spelling, for the worksheet will mainly serve as a reminder

## ING STRATEGIES

S YOU WILL HAVE TO TRY TO  
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## ANTICIPATED STUDENT BEHAVIORS

ACTIVITY 1-3

(27)

Students:

--should open their boxes and observe the contents  
for five seconds.

--should close their boxes after five seconds.

ACTIVITY 1-3

28

MATERIALS

TEACHING STRATEGIES

to them of what they saw. Assist students with spelling when necessary.

Add:

THERE IS EXTRA SPACE IN EACH ROW TO WRITE ANYTHING ELSE YOU NOTICED ABOUT THE THINGS IN YOUR BOX, SUCH AS COLORS, SIZE, ETC. USE THIS SPACE ALSO.

When all have finished, find out which team obtained the most information in each category by asking how many things they put down. Do not ask them to name the items, for that would give clues of what's in the box to other teams. Be sure to check the list of the team that claims to have the longest list to see that they do indeed have the longest correct list. Write the winning team for each category on the chalkboard.

Follow the above strategy for each timed interval listed on the worksheet.

MORE GAME T

At the termination of the game, have the students take all the time they wish to really look at the things in the box. After they have had sufficient time to examine the contents, ask the students to assist you in listing the items in the box. Have the students describe each item as it is listed as to color, size, shape, etc.



## TEACHING STRATEGIES

they saw. Assist students with spelling



RA SPACE IN EACH ROW TO WRITE  
E YOU NOTICED ABOUT THE THINGS  
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strategy for each timed interval listed

## MORE GAME TIME

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the students describe each item as it is  
r, size, shape, etc.

## ANTICIPATED STUDENT BEHAVIORS

Students:

--write the data collected from observation  
on their worksheets.

--determine which team observed the most.

## MATERIALS

## TEACHING STRATEGIES

Now distribute a magnifier to each student and direct team members to take each item out of their boxes and line them up on the table.

Ask:

HOW FAR AWAY FROM THE ITEMS IN THE BOX WERE YOU WHEN YOU LOOKED AT THEM?

DO YOU THINK THE THINGS IN THE BOX WOULD LOOK DIFFERENT IF YOU LOOKED AT THEM WITH A MAGNIFIER LIKE THIS ONE?

NOW WITH YOUR MAGNIFIER LOOK VERY CAREFULLY AT THE ITEMS. TRY TO REMEMBER THE NEW THINGS YOU NOTICE ABOUT EACH ITEM.

It may be necessary to demonstrate how to use the magnifier. Tell the students to hold the lenses close to their eyes and move closer and closer to the items until they can see them clearly. Also tell the students that each circle on the lens is a different power, or makes things a different size. Have them experiment with each.

HOW DID THE MAGNIFIER HELP YOU TO LOOK AT THINGS?

Select two or three items that were in the box and ask:

HOW DID (item) LOOK DIFFERENT UNDER THE MAGNIFIER?



## TEACHING STRATEGIES

Give each student a box and direct them to take an item out of their boxes and

Ask the students what items in the box were

Ask the students what items in the box would look like if they were looked at with a magnifier

Ask the students to look very carefully at the items and remember the new things they see.

Demonstrate how to use the magnifiers to hold the lenses close together and closer to the items being looked at. Also tell the students that a magnifier is a different power, or size. Have them experiment

Ask the students to help you to look at the items

Ask the students what items were in the box and ask:

Ask the students what items were different under the magnifier

## ANTICIPATED STUDENT BEHAVIORS

ACTIVITY 1-3

29

Students:

--respond, "Not too far," "A foot," "A couple of inches."

--respond, "Yes," "No," "Maybe."

--carefully examine the items with their magnifiers and note any new things seen.

--respond, "It helped me take a closer look," "I could see more parts," "Things look bigger," "Things looked different."

--describe how each item looked, noting in particular such things as texture, space between component parts, forms not previously seen, and shapes that are altered.

ACTIVITY 1-3

30

MATERIALS

TEACHING STRATEGIES

Allow and encourage students to express specific detail observed in the items such as grain, texture, or colors when using the magnifier.

Conclude by saying:

LET'S SEE IF WE CAN BETTER ANSWER THE QUESTION I ASKED YOU ABOUT SEEING THINGS NOW THAT YOU'VE REALLY LOOKED AT SOME ITEMS.

I ASKED, "HOW LONG DOES IT TAKE YOU TO REALLY SEE SOMETHING IN YOUR ENVIRONMENT"?

DO YOU REALLY LOOK AT THINGS AROUND YOU EVERYDAY OR DO YOU JUST KIND OF PASS THEM BY?

WHICH THINGS IN THE BOX WERE FROM OUR ENVIRONMENT?

HOW SHOULD YOU LOOK AT YOUR ENVIRONMENT TO LEARN MORE ABOUT IT?

At the conclusion of the game, distribute the same photos taken earlier in this activity. See if the students can identify more components of their environment than they observed during the previous showing.

This will provide you with the opportunity to detect any keener sense of observation your students aquired during the activity, and will give the students a chance to spot additional aspects of their environment.

Allow any students who are interested to check out a magnifier. Say:

## TEACHING STRATEGIES

age students to express specific detail  
items such as grain, texture, or colors  
magnifier.

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ABOUT SEEING THINGS NOW THAT YOU'VE  
CD AT SOME ITEMS.

OW LONG DOES IT TAKE YOU TO REALLY  
ING IN YOUR ENVIRONMENT"?

LY LOOK AT THINGS AROUND YOU  
DO YOU JUST KIND OF PASS THEM

S IN THE BOX WERE FROM OUR  
?

YOU LOOK AT YOUR ENVIRONMENT TO  
ABOUT IT?

n of the game, distribute the same photos  
this activity. See if the students can  
omponents of their environment than they  
the previous showing.

e you with the opportunity to detect any  
observation your students aquired during  
d will give the students a chance to  
aspects of their environment.

ts who are interested to check out a

## ANTICIPATED STUDENT BEHAVIORS

Students:

--conclude, "A long time to see all of it," "You  
see more the longer you look."

--respond, "Just kind of pass them by."

--respond, "All of them," or list each item.

--infer or conclude, "Look closely," "Look a long  
time."

### MATERIALS

### TEACHING STRATEGIES

IF YOU'RE VERY CAREFUL WITH THE MAGNIFIERS,  
SOME OF YOU MIGHT LIKE TO TAKE THEM HOME,  
LOOK CLOSELY AT THE THINGS IN YOUR HOME  
ENVIRONMENT, AND SEE IF THEY LOOK DIFFERENT  
WHEN VIEWED CAREFULLY AND CLOSELY.

Explain to students that they are responsible for any  
equipment checked out. Tell them that it must be returned  
the next day for use in class. Help them understand that  
it must be replaced if damaged or lost and that the group  
will have less to work with while it is missing.

## STRATEGIES

WITH THE MAGNIFIERS,  
TO TAKE THEM HOME,  
INGS IN YOUR HOME  
THEY LOOK DIFFERENT  
AND CLOSELY.

ey are responsible for any  
them that it must be returned  
s. Help them understand that  
ed or lost and that the group  
while it is missing.

## ANTICIPATED STUDENT BEHAVIORS

ACTIVITY 1-3

31

## ACTIVITY 1-3: "Making a 'Clever Look'"

Teacher

Activity name suggested by class:

BSCS USE: Post Tally Rev  
Day 1 Day 2 Day 3 Day 4 Day 5 Day 6

1. Date taught (month and date, e.g. 11/2)						
2. Minutes of class time on science each day						
3. Minutes of preparation on each day						
4. Students absent on each date (Use if number)						

5. Interest of class as expressed by apparent attention to what is happening.

Number of students responding with: Name students you noted especially\* (Number)

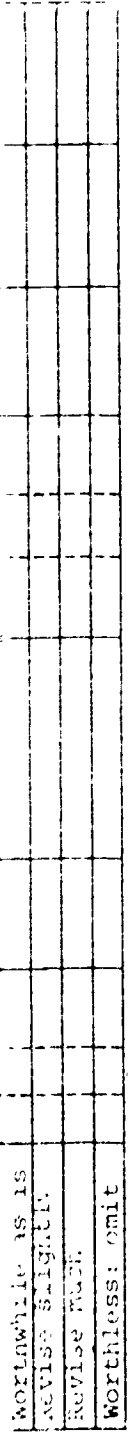
HIGH INTEREST	→					
MODERATE INTEREST	→					
INDIFFERENCE	→					
MODERATE RESISTANCE	→					
STRONG DISLIKE	→					
HARD TO RATE	→					

6. Equipment in kit: None Satisfactory Too fragile Too complicated Difficult to use
7. Equipment I got: Easy Hard to get, Hard to set, Unobtainable, needed to get Put away add to kit add to kit

Materials used:	Worksheet #	Game #	Slides (show slide nos.) #	Transparency #	Card(s) #	Tape(s) #	Other #
Worthwhile is as							
revis- slightly							
revis- more							
Worthless-omit							

9. Maturity level is just right too childish too mature Explain
10. Vocabulary level is just right too easy too difficult Explain
11. Were teacher instructions clear enough to follow Yes No -Pages and Problems
12. Were clues to success and reviews of success helpful? Yes No -Why not
13. Did the activity fulfill the purpose stated by the guide? Yes No -Comment:
14. Were any parts of this activity omitted? No Yes - Explain

15. Your rating of this activity: Worthless
- Value--needs the Worth salvaging--make
- Revised as I revisor suggested major changes described --drop it



- SPECIFIC COMMENTS ABOUT THIS ACTIVITY:
10. There are always parts of activities that we don't and need not be changed. What parts of this activity should be retained when the curriculum is revised? \_\_\_\_\_ pages

- have you answered each question, attached annotated Guide, your revisions, student work, etc.?

Teacher \_\_\_\_\_

# REPORT OF WHAT HAPPENED AND SUGGESTIONS FOR REVISION

1. Whenever practical write all over your second copy of the Guide. Tear out the activity and send the annotated Guide in with this form.
2. Make specific suggestions - exactly what you think should appear in the Guide.
3. Tell us what you did. Think of what you needed, what you had to work out for yourself, how you presented something to make it go over.
4. Describe the revisions you said were needed in answering the questions on the other side of this form.
5. As a reminder of things that help in revision, read through the following list and check off things you want to be sure to note this time. (We know you can't tell about everything every time!)

## THE LESSON

- ☐ how you organized materials or class.
- ☐ things added (a question, a picture, etc.).
- ☐ equipment, supplies, visual aids.
- ☐ things that went wrong, misunderstandings.
- ☐ what you would do differently or avoid next time.
- ☐ turmoil in the class caused by the activity, or disruptive students, or interruptions, and how you dealt with them.

## THE STUDENTS

- ☐ who had problems and what they were.
- ☐ how someone "caught on" (or who never did).
- ☐ who was really "turned off" (or on).
- ☐ reactions of parents, teachers, students.
- ☐ special evidence of learning or applying ideas.





## Me and my Environment

### OBJECTIVE FOCUS FOR THIS ACTIVITY

#### UNIT GOALS:

1. Explore his immediate environment through a variety of sensory experiences and physical contacts.
3. Create a greater interest in, and a more sensitive attitude toward, his environment.
4. Understand that his environment includes the whole Earth.

#### CORE A OBJECTIVES:

1. Expand the use of his senses.
2. Identify a wide variety of things in his environment.

### MATERIALS

### TEACHING STRATEGIES

#### Activity 1-4. A Closer Look Outside

*This activity will allow the students to take a closer look at their outdoor environment. The use of magnifiers will help students to notice details they normally would not see.*

THIS ACTIVITY

his immediate environment through  
y of sensory experiences and  
contacts.

greater interest in, and a more  
e attitude toward, his environment.

and that his environment includes  
the Earth.

is:

the use of his senses.

a wide variety of things in his  
ment.

UNIT I.

EXPLORING MY ENVIRONMENT



CORE A.

SENSING MY ENVIRONMENT

**BSCS**

ACTIVITY 1-4. A CLOSER LOOK OUTSIDE

**TEACHING STRATEGIES**Look Outside

low the students to take a closer  
environment. The use of magnifiers  
notice details they normally would

**ANTICIPATED STUDENT BEHAVIORS**

At the end of this activity, each student should:

- have found, drawn, or described in writing, objects out-of-doors that met the requirements listed on his search cards.
- have used a magnifier to discover details in objects which he had never noticed before.
- have concluded that all the things that he came in contact with are a part of his environment.
- have recalled the definition of the word "environment."

## ACTIVITY 1-4

34

## MATERIALS

Magnifiers - 1 per student

\*Pieces of newspaper pictures -  
1 per student

\*Search cards: 3" X 5" index  
cards with one of the following  
directives written on it  
Find something:

that has lines on it.  
with dots on it.  
with one color on it.  
with two colors on it.  
with three colors on it.  
you can see through.  
that you think is ugly.  
that you think is pretty.  
that is smooth.  
that is rough.  
that is flat.  
that is living.  
that is sharp.  
that has many sides.  
that is thin.  
that jumps.  
that has four leaves on it.  
that has a smell.  
that has tiny holes.  
that is bumpy.  
that moves by itself.

\*Not furnished in materials kit

## TEACHING STRATEGIES

### Teacher Preparation:

1. The entire set of search cards should be equally distributed among the class. (Each student should have several cards.) To make them, simply print one of the topics listed in the materials column on a 3" X 5" index card.
2. These items are to be collected by the students out-of-doors. Therefore, locate an area nearby which might have most of the specifications listed on the search cards. If needed, obtain permission from your principal to take your class outside.
3. Have a newspaper picture cut out and available for each student to observe.

Begin by saying:

YESTERDAY WE STARTED TO FIND OUT MORE ABOUT  
OUR ENVIRONMENT BY USING OUR SENSES.

CAN ANYBODY REMEMBER WHAT THE WORD "ENVIRONMENT"  
MEANS?

WHAT SENSE DID WE USE TO FIND OUT ABOUT OUR  
ENVIRONMENT IN OUR LAST ACTIVITY?

YESTERDAY WE USED MAGNIFIERS TO LOOK AT SOME  
THINGS IN OUR CLASSROOM. TODAY WE'LL USE OUR  
MAGNIFIERS TO LOOK AT SOME THINGS FOUND *OUTSIDE*  
OUR CLASSROOM.

HOW MANY OF YOU THINK YOU HAVE SEEN ALMOST  
EVERYTHING POSSIBLE IN YOUR OUTDOOR ENVIRONMENT?

## TEACHING STRATEGIES

on:

set of search cards should be equally  
among the class. (Each student  
several cards.) To make them, simply  
of the topics listed in the materials  
3" X 5" index card.

are to be collected by the students  
s. Therefore, locate an area nearby  
have most of the specifications listed  
ch cards. If needed, obtain permission  
principal to take your class outside.

paper picture cut out and available  
student to observe.

STARTED TO FIND OUT MORE ABOUT  
MENT BY USING OUR SENSES.

REMEMBER WHAT THE WORD "ENVIRONMENT"

WID WE USE TO FIND OUT ABOUT OUR  
IN OUR LAST ACTIVITY?

USED MAGNIFIERS TO LOOK AT SOME  
R CLASSROOM. TODAY WE'LL USE OUR  
TO LOOK AT SOME THINGS FOUND *OUTSIDE*  
M.

YOU THINK YOU HAVE SEEN ALMOST  
POSSIBLE IN YOUR OUTDOOR ENVIRONMENT?

## ANTICIPATED STUDENT BEHAVIORS

Students:

--recall the definition given in Activity 1-3 and  
respond, "Everything around me."

--recall, "Seeing," "Sight," "Our eyes," "Looking."

--respond by raising their hands.

## MATERIALS

## TEACHING STRATEGIES

TODAY WE'RE GOING TO SEARCH FOR SOME THINGS OUTSIDE THAT I THINK SOME OF YOU PROBABLY HAVE NEVER LOOKED AT.

I'M GOING TO GIVE EACH OF YOU SEVERAL CARDS THAT ASK YOU TO DO SOMETHING. I'M CALLING THEM "SEARCH CARDS."

THESE CARDS WILL TELL YOU TO LOOK FOR SOMETHING IN OUR OUTDOOR ENVIRONMENT.

THE THINGS YOU FIND MUST BE SOMETHING YOU CAN SEE BETTER THROUGH A MAGNIFIER THAN WITH YOUR EYES ALONE.

FOR EXAMPLE: MY SEARCH CARD SAYS TO LOOK FOR SOMETHING SPOTTED. WHEN I LOOK AT THE NEWSPAPER PICTURED IT DOESN'T LOOK SPOTTED: BUT IF I LOOK CLOSELY WITH THE MAGNIFIER I CAN SEE MANY DOTS.

Distribute to each of the students a magnifier and a piece of a picture from a newspaper, and tell them to look at the picture for dots. As they are observing the picture, distribute the search cards as indicated under teacher preparation.

SINCE THIS IS OUR FIRST TRIP OUTSIDE IN SCIENCE CLASS, WHAT RULES DO YOU THINK WE SHOULD SET TO HELP US REMEMBER HOW TO ACT?

Review the rules with your students.

Then say:

WHEN WE GET TO THE AREA OUTSIDE THAT WE WILL EXPLORE, YOU MAY SEE SOMETHING THAT YOU THINK

## TEACHING STRATEGIES

ING TO SEARCH FOR SOME THINGS  
THINK SOME OF YOU PROBABLY  
OKED AT.

GIVE EACH OF YOU SEVERAL CARDS  
O DO SOMETHING. I'M CALLING  
ARDS."

ILL TELL YOU TO LOOK FOR SOMETHING  
R ENVIRONMENT.

C FIND MUST BE SOMETHING YOU CAN  
ROUGH A MAGNIFIER THAN WITH YOUR

MY SEARCH CARD SAYS TO LOOK FOR  
SOMETHING SPOTTED. WHEN I  
LOOK AT THE NEWSPAPER PICTURED  
IT DOESN'T LOOK SPOTTED: BUT IF  
I LOOK CLOSELY WITH THE MAGNIFIER  
I CAN SEE MANY DOTS.

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a newspaper, and tell them to look at the  
As they are observing the picture,  
rch cards as indicated under teacher

OUR FIRST TRIP OUTSIDE IN SCIENCE  
ULES DO YOU THINK WE SHOULD SET TO  
BER HOW TO ACT?

with your students.

TO THE AREA OUTSIDE THAT WE WILL  
MA' SEE SOMETHING THAT YOU THINK

## ANTICIPATED STUDENT BEHAVIORS

ACTIVITY 1-4

35

Students:

--observe the dots on the newspaper picture.

--suggest rules such as "Stay in the area," "Come  
when the teacher calls," "Follow directions."

ACTIVITY 1-4

36

MATERIALS

TEACHING STRATEGIES

HAS LINES ON IT. WHAT CAN YOU DO TO MAKE SURE IT REALLY DOES HAVE LINES ON IT?

WHEN YOU HAVE FOUND WHAT YOUR CARD HAS ASKED YOU TO FIND, WRITE ITS NAME, OR DRAW A PICTURE OF IT, ON YOUR CARD.

(Remind the students to take pencils with them.)

Encourage the students to observe many other things as well as those things listed on the cards (they'll probably have to in order to find their objects).

Now take the class to the area of your choice and proceed with the activity. Be alert to those students who are not experiencing success and help them.

HAVE FUN OR

JOIN IN T

LOOK VERY

Upon returning to the classroom allow each student to indicate which of the cards he had and what it was he found that fulfilled the requirements of the card. The students might be more encouraged to respond if you started by giving your own "exciting" report.



## TEACHING STRATEGIES

IT. WHAT CAN YOU DO TO MAKE SURE  
S HAVE LINES ON IT?

FOUND WHAT YOUR CARD HAS ASKED YOU  
E ITS NAME, OR DRAW A PICTURE OF IT,

ts to take pencils with them.)

ents to observe many other things as  
gs listed on the cards (they'll probably  
o find their objects).

to the area of your choice and proceed  
Be alert to those students who are  
uccess and help them.

HAVE FUN OBSERVING

JOIN IN THE FUN

LOOK VERY CLOSELY

the classroom allow each student to  
the cards he had and what it was he  
ed the requirements of the card. The  
more encouraged to respond if you  
your own "exciting" report.

## ANTICIPATED STUDENT BEHAVIORS

Students:

--respond, "Use the magnifier," "Look at it closer."





## MATERIALS

## TEACHING STRATEGIES

In conclusion ask:

HOW MANY OF YOU DISCOVERED SOMETHING YOU  
NEVER KNEW BEFORE?

Ask students who raised hands to tell the other students  
about their discoveries.

HOW DID THE MAGNIFIER HELP YOU?

DID YOU SEE ANYTHING OUTSIDE THAT IS PART OF  
YOUR ENVIRONMENT? WHAT?

DO YOU THINK WE COULD EVER BE HURT BY LOOKING  
AT SOMETHING IN OUR ENVIRONMENT?

DOES IT EVER HURT YOUR EYES TO LOOK AT THE SUN?

DOES IT EVER HURT YOUR EYES TO LOOK AT A BRIGHT  
LIGHT?

WHAT ARE SOME OTHER THINGS WE MIGHT LOOK AT  
AND HURT OUR EYES?

## ING STRATEGIES

COVERED SOMETHING YOU

hands to tell the other students

ER HELP YOU?

ING OUTSIDE THAT IS PART OF  
WHAT?

ULD EVER BE HURT BY LOOKING  
R ENVIRONMENT?

YOUR EYES TO LOOK AT THE SUN?

YOUR EYES TO LOOK AT A BRIGHT

ER THINGS WE MIGHT LOOK AT

## ANTICIPATED STUDENT BEHAVIORS

ACTIVITY 1-4

37

Students:

--raise hands.

--conclude that the magnifier was very useful in  
looking at things more closely, and that they  
could see many things with a magnifier that they  
would have missed without one.

--respond, "Everything," and list many things that  
they saw outside.

--respond, "Yes," "No," "I don't know."

--respond, "Yes."

--respond, "Yes."

--give various responses such as, "A torch," "A  
welder," "An eclipse."

UNIT I, CORE A  
ACTIVITY 1-4: "A Closer Look Outside"

Activity name suggested by class: \_\_\_\_\_

Teacher \_\_\_\_\_

	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6
Date taught (month and date, e.g. 11/2)						
Minutes of class time on science each day						
Minutes of preparation each day						
Students absent on each date (Use ID Number)						

BSCS USE: Post \_\_\_\_\_ Tally \_\_\_\_\_ Rev \_\_\_\_\_

1. Date taught (month and date, e.g. 11/2)						
2. Minutes of class time on science each day						
3. Minutes of preparation each day						
4. Students absent on each date (Use ID Number)						

5. Interest of class as expressed by apparent attention to what is happening.Number of students responding with: \_\_\_\_\_ Name students you noted especially: \_\_\_\_\_  
(Number)

HIGH INTEREST	_____
MODERATE INTEREST	_____
INDIFFERENCE	_____
MODERATE RESISTANCE	_____
STRONG DISLIKE	_____
HARD TO RATE	_____

6. Equipment in kit: ☐ None ☐ Satisfactory ☐ Too fragile ☐ Too complicated ☐ Difficult to use7. Equipment I got: ☐ Easy to get ☐ Hard to get, but okay ☐ Hard to get, add to kit ☐ Unobtainable, add to kit

Materials used:	Worksheet #	Game #	Slides (show slide nos.)	Transparency #	Card(s) #	Tape(s) #	Other #
Worthwhile as is							
Revise slightly							
Revise much							
Worthless: omit							

9. Maturity level is ☐ just right ☐ too childish ☐ too mature Explain:10. Vocabulary level is ☐ just right ☐ too easy ☐ too difficult Explain:11. Were teacher instructions clear enough to follow? ☐ Yes ☐ No - Pages and Problem:12. Were clues to success and reviews of success helpful? ☐ Yes ☐ No - Why not?13. Did the activity fulfill the purpose stated by the Guide? ☐ Yes ☐ No - Comment:14. Were any parts of this activity omitted? ☐ No ☐ Yes - Explain:

15. Your rating of this activity:

☐ Worthwhile ☐ Of value--needs the ☐ Worth salvaging--make ☐ Worthless☐ Confusing--needs major changes described ☐ Worthless--drop it

[illegible]

9. Maturity level is ☐ just right ☐ too childish ☐ too mature Explain:  
10. Vocabulary level is ☐ just right ☐ too easy ☐ too difficult Explain:  
11. Were teacher instructions clear enough to follow? ☐ Yes ☐ No - Pages and Problems:  
12. Were clues to success and reviews of success helpful? ☐ Yes ☐ No - Why not?  
13. Did the activity fulfill the purpose stated by the Guide? ☐ Yes ☐ No - Comment:  
14. Were any parts of this activity omitted? ☐ No ☐ Yes - Explain:  
15. Your rating of this activity:  
☐ Worthwhile ☐ Of value--needs the ☐ Worth salvaging--make ☐ Worthless  
--keep as is revision suggested major changes described --drop it

**SPECIFIC CONCERNS ABOUT THIS ACTIVITY:**

16. There are always parts of activities that are good and need not be changed.  
What parts of this activity should be retained when the curriculum is revised?  
Page(s) \_\_\_\_\_:
17. Were students able to find the things listed on their search cards?  
☐ Yes ☐ No: Comment.
18. Did each student report on the findings made on the trip?  
☐ Yes ☐ No  
If not, who and why not?
19. Did any students have difficulty describing the details seen under the magnifier?  
☐ No ☐ Yes: Comment.
20. Concern (or questions) about content:
21. Messages for staff (read immediately):

Have you answered each question, attached annotated Guide, your revisions, student work, etc.?

Teacher \_\_\_\_\_

#### REPORT OF WHAT HAPPENED AND SUGGESTIONS FOR REVISION

1. Whenever practical write all over your second copy of the Guide. Tear out the activity and send the annotated Guide in with this form.
2. Make specific suggestions - exactly what you think should appear in the Guide.
3. Tell us what you did. Think of what you needed, what you had to work out for yourself, how you presented something to make it go over.
4. Describe the revisions you said were needed in answering the questions on the other side of this form.
5. As a reminder of things that help in revision, read through the following list and check off things you want to be sure to note this time. (We know you can't tell about everything every time!)

#### THE LESSON

- ☐ how you organized materials or class.
- ☐ things added (a question, a picture, etc.).
- ☐ equipment, supplies, visual aids.
- ☐ things that went wrong, misunderstandings.
- ☐ what you would do differently
  - or avoid next time.
- ☐ turmoil in the class caused by the activity, or disruptive students, or interruptions, and how you dealt with them.

#### THE STUDENTS

- ☐ who had problems and what they were.
- ☐ how someone "caught on" (or who never did).
- ☐ who was really "turned off" (or on).
- ☐ reactions of parents, teachers, students.
- ☐ special evidence of learning or applying ideas.



## Me and my Environment

### OBJECTIVE FOCUS FOR THIS ACTIVITY

#### UNIT GOALS:

1. Explore his immediate environment a variety of sensory experience physical contacts.
3. Create a greater interest in, a sensitive attitude toward, his
4. Understand that his environment the whole Earth.

#### CORE A OBJECTIVES:

1. Expand the use of his senses.
2. Identify a wide variety of things in environment.
3. Identify some qualities that make things alike or different.
4. Determine the relationship he has with living things.

### MATERIALS

### TEACHING STRATEGIES

#### Activity 1-5. Zoom In, Zoom Out

*In this activity students will view a set of objects that have been prepared to show that objects in the environment can be viewed so closely that texture and pattern are revealed but that it is difficult or even impossible to determine what is being viewed until seen from a different perspective. The point is made that there are many aspects of the environment of which few people are aware and that many aspects can become known by close and careful observation.*



BSCS

## UNIT 1.

## EXPLORING MY ENVIRONMENT

## CORE A.

## SENSING MY ENVIRONMENT

## ACTIVITY 1-5.

## ZOOM IN, ZOOM OUT

## FOR THIS ACTIVITY

explore his immediate environment through a variety of sensory experiences and physical contacts.

create a greater interest in, and a more sensitive attitude toward, his environment.

understand that his environment includes the whole Earth.

## OBJECTIVES:

expand the use of his senses.

identify a wide variety of things in his environment.

identify some qualities that make environments alike or different.

determine the relationship he has with other living things.

## TEACHING STRATEGIES

Zoom In, Zoom Out

Students will view a set of slides which are intended to show that objects in the environment are so closely that texture and patterns are that it is difficult or even impossible to see as being viewed until seen from a wider point of view. The point is made that there are aspects of the world of which few people are aware. These are made known by close and careful observation.

## ANTICIPATED STUDENT BEHAVIORS

At the end of this activity, each student should:

- have attempted to identify objects viewed from very close, close, and far away.
- have expressed that things look different depending on how one looks at them.
- have used visual cues to stimulate imaginative speculation.

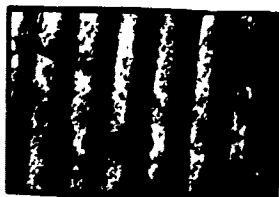
## ACTIVITY 1-5

40

## MATERIALS

\*35mm Slide projector  
Slides 1-2 through 1-19

Slide 1-2



Slide 1-3



Slide 1-4



\*Not furnished in materials kit

## TEACHING STRATEGIES

### Teacher Preparation:

Preview the slides before class to make sure they are in the proper sequence.

It is important that the slides be shown in sequence because the first slide shows a close up view of something. The student will describe what he sees and try to guess its identity. The second and third slides show a progressively more distant view of the same thing.

Begin by saying:

DURING THE PAST FEW DAYS WE HAVE BEEN LOOKING AT THINGS IN OUR ENVIRONMENT. WHAT ARE SOME OF THE THINGS WE HAVE SEEN?

WHEN WE WANTED A CLOSER LOOK AT SOME OF THE PARTS OF OUR ENVIRONMENT, SO WE COULD SEE SUCH THINGS AS LINES AND SPOTS, WHAT DID WE USE?

HOW DID USING THE MAGNIFIER MAKE THINGS LOOK DIFFERENT?

DO YOU THINK YOU COULD EVER TAKE SUCH A CLOSE LOOK AT SOMETHING IN YOUR ENVIRONMENT THAT YOU WOULDN'T BE ABLE TO TELL WHAT IT IS?

TODAY WE ARE GOING TO LOOK AT SOME SLIDES WHICH SHOW THINGS THAT YOU MAY OR MAY NOT THINK ARE PART OF OUR ENVIRONMENT.



## TEACHING STRATEGIES

tion:

es before class to make sure they are in  
nce.

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describe what he sees and try to guess its  
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YOU COULD EVER TAKE SUCH A CLOSE  
THING IN YOUR ENVIRONMENT THAT YOU  
ABLE TO TELL WHAT IT IS?

GOING TO LOOK AT SOME SLIDES WHICH  
THAT YOU MAY OR MAY NOT THINK ARE  
ENT.

## ANTICIPATED STUDENT BEHAVIORS

Students:

--recall Activities 1-3 and 1-4 and respond with the  
items in the boxes in Activity 1-3 and items  
found by using search cards in Activity 1-4.

--recall the magnifier used in Activity 1-3 and 1-4  
and respond, "Magnifier."

--respond, "You could see things you couldn't see  
with the naked eye," "You got closer up," "You  
could only see part of it," etc.

--predict, "Maybe," "No," "Yes," "I don't know,"  
"No, I could always tell."

## MATERIALS

Slide 1-5



Slide 1-6



Slide 1-7



## TEACHING STRATEGIES

IN ORDER TO DECIDE IF THEY'RE PART OF OUR ENVIRONMENT, YOU'LL HAVE TO IDENTIFY WHAT'S IN THE PICTURE. BUT THIS WON'T BE EASY BECAUSE AT FIRST WE'RE GOING TO SEE A PICTURE OF SOMETHING VERY, VERY CLOSE UP, JUST AS IF WE WERE LOOKING AT IT THROUGH A STRONG MAGNIFIER. THEN WE ARE GOING TO LOOK AT A PICTURE OF THE SAME THING A LITTLE FURTHER AWAY.

Each group of slides will consist of three photographs of the same item starting with an extreme close-up view. While viewing the slides, the students should concentrate on identifying the object by the details shown and conclude that magnification adds knowledge, perspective, and detail but not as much or as quickly as when looked at farther away.

Project Slide 1-2 (very close view) and ask:

WHAT DOES THIS LOOK LIKE?

WHAT COLORS DO YOU SEE?

HOW DO YOU THINK IT WOULD FEEL? WHY?

WHAT DO YOU THINK IT'S MADE OF?

HOW LARGE DO YOU THINK IT IS?

DO YOU LIKE THE WAY IT LOOKS? WHY? WHY NOT?

DOES ANYBODY WANT TO GUESS WHAT IT IS?

## G STRATEGIES

IF THEY'RE PART OF OUR  
HAVE TO IDENTIFY WHAT'S  
THIS WON'T BE EASY  
RE GOING TO SEE A  
VERY, VERY CLOSE UP,  
LOOKING AT IT THROUGH A  
WHEN WE ARE GOING TO  
THE SAME THING A LITTLE

consist of three photographs of  
with an extreme close-up view.  
the students should concentrate  
by the details shown and  
on adds knowledge, perspective,  
or as quickly as when looked

close view) and ask:

LIKE?

SEE?

WOULD FEEL? WHY?

'S MADE OF?

INK IT IS?

IT LOOKS? WHY? WHY NOT?

GUESS WHAT IT IS?

## ANTICIPATED STUDENT BEHAVIORS

ACTIVITY 1-5

41

Students:

--respond with a variety of answers.

--respond with a variety of guesses.

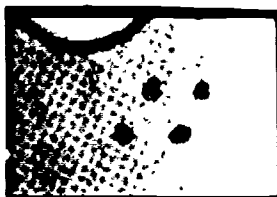
ASK FOR  
OTHER IDEAS

ACTIVITY 1-5

42

MATERIALS

Slide 1-8



Slide 1-9



Slide 1-10



TEACHING STRATEGIES

Write a large number one (1) on the chalkboard and underneath it write what the students guess the slide to be.

DO YOU THINK THIS IS PART OF OUR ENVIRONMENT?  
WHY? WHY NOT?

Do not tell students what the picture is. Say:

LET'S MOVE A LITTLE FARTHER AWAY AND SEE IF IT  
WILL HELP US TO BETTER IDENTIFY WHAT THE OBJECT  
IS.

Project Slide 1-3. (Same object, picture taken from a  
greater distance.)

NOW WHAT DOES IT LOOK LIKE?

HOW IS THIS LIKE THE LAST PICTURE?

HOW IS IT DIFFERENT?

WHO WANTS TO GUESS WHAT IT IS NOW, OR CHANGE  
THE GUESS YOU MADE BEFORE?

## ING STRATEGIES

e (1) on the chalkboard and under-  
students guess the slide to be.

IS PART OF OUR ENVIRONMENT?

at the picture is. Say:

E FARTHER AWAY AND SEE IF IT  
TER IDENTIFY WHAT THE OBJECT

the object, picture taken from a  
ater distance.)

OK LIKE?

VE LAST PICTURE?

T?

WHAT IT IS NOW, OR CHANGE  
BEFORE?

## ANTICIPATED STUDENT BEHAVIORS


Students:

--respond, "Yes," or "No," and offer reasons.

--again students will give a variety of responses.

--make new guesses or change former guesses.

 INVOLVE YOUR  
SLOWEST  
 STUDENTS

 GIVE SEVERAL  
STUDENTS A CHANCE  
TO RESPOND

## MATERIALS

Slide 1-11



Slide 1-12



Slide 1-13



## TEACHING STRATEGIES

Write a number two (2) on the chalkboard and record the guesses made beneath it.

NOW LET'S LOOK AT THE OBJECT ONCE AGAIN FROM FARTHER AWAY.

Project Slide 1-4. (Same object, picture taken from a greater distance.)

Ask:

NOW WHO CAN GUESS WHAT THIS IS?

HOW IS THIS PICTURE LIKE THE PICTURE IN THE FIRST SLIDE?

WHAT DO YOU SEE HERE THAT YOU ALSO SAW IN THE FIRST SLIDE?

HOW IS THIS PICTURE LIKE THE SECOND PICTURE?

HOW IS THIS PICTURE DIFFERENT FROM THE FIRST TWO SLIDES?

WHAT HELPED YOU MOST IN GUESSING WHAT IT WAS?

DID YOU GUESS CORRECTLY WHAT THE FIRST SLIDE WAS? THE SECOND?

Use the lists of guesses on the board to help decide who guessed correctly.

## CHING STRATEGIES

on the chalkboard and record the  
it.

THE OBJECT ONCE AGAIN FROM

ame object, picture taken from a

WHAT THIS IS?

URE LIKE THE PICTURE IN THE

HERE THAT YOU ALSO SAW IN THE

URE LIKE THE SECOND PICTURE?

URE DIFFERENT FROM THE FIRST

MOST IN GUESSING WHAT IT WAS?

RECTLY WHA. THE FIRST SLIDE

ses on the board to help decide who

## ANTICIPATED STUDENT BEHAVIORS

ACTIVITY 1-5

13

Students:

--should be able to identify the object correctly  
as a rusted tin can.

--should state that all three slides were of the  
same thing and that they couldn't recognize it  
at first because it was taken at a very close  
range.

--answers will vary. Some might say, "Color,"  
"Size," "The holes," "Shape," etc.

--respond, "Yes," "No," "I was close," etc.

ACTIVITY 1-5

44

MATERIALS

Slide 1-14



Slide 1-15



Slide 1-16



TEACHING STRATEGIES

LOCATE THE SPOT, IF YOU CAN, WHERE THE FIRST SLIDE WAS TAKEN.

Continue viewing each group of slides using the same strategy as above. Be sure to allow the students to guess what they think each close-up view is so they can later check to see how accurate they were.

When you have finished the sequence, you may want to repeat the series quickly so the students can use the different perspectives a second time.

Then ask:

WHAT WOULD BE THE BEST WAY TO LOOK AT AN OBJECT IN OUR ENVIRONMENT IN ORDER TO TELL WHAT IT IS?

Do not expect the class to reach agreement. They must ultimately realize that both normal viewing and magnifying are important, but that we do not have to magnify our world to appreciate it.



## TEACHING STRATEGIES

IF YOU CAN, WHERE THE FIRST

group of slides using the same  
be sure to allow the students to  
each close-up view is so they can  
how accurate they were.

ed the sequence, you may want to  
quickly so the students can use the  
es a second time.

THE BEST WAY TO LOOK AT AN  
ENVIRONMENT IN ORDER TO TELL

ass to reach agreement. They must  
that both normal viewing and magnifying  
that we do not have to magnify our  
t.

## ANTICIPATED STUDENT BEHAVIORS

Students:

--point to the spot on the screen where they  
think the first and second photos were taken.

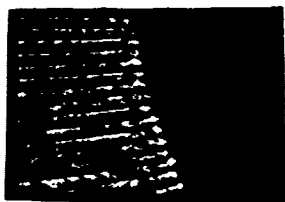
--should describe and attempt to guess what each of  
the remaining close-up slides and pictures are of,  
and correctly identify the frog, comic, bridge,  
wood of tree, and peacock feather when the last of  
each picture series is viewed.

--give opinions and probably conclude that it's  
better to get a total view of the object, maybe  
even several views.

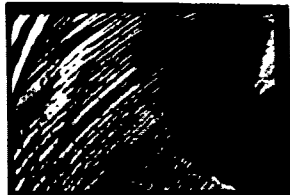
  
**ACCEPT ALL  
ANSWERS**

## MATERIALS

Slide 1-17



Slide 1-18



Slide 1-19



## TEACHING STRATEGIES

### Close-up And Far-away Photographs (Optional)

The students might enjoy taking pictures of things around home and school at close and far range. Allow students to use the camera provided to experiment with close-up and far-away photographs. Perfection must not be expected because this requires a special camera and skill. Even if the pictures are out of focus and blurred, the end result can be exciting.

Select two students to make a bulletin board using the photographs. Encourage other students to make a guess about what is taken in each photograph.



## TEACHING STRATEGIES

### Photographs (Optional)

taking pictures of things around  
and far range. Allow students to  
experiment with close-up and  
perfection must not be expected  
special camera and skill. Even if  
focus and blurred, the end result

ake a bulletin board using the  
ther students to make a guess  
ch photograph.



## CAMERA TIME

## ANTICIPATED STUDENT BEHAVIORS

ACTIVITY 1-5

45

UNIT 1, COME ON  
ACTIVITY 1-5: "Zoom In, Zoom Out"

Activity name suggested by class: \_\_\_\_\_

Teacher \_\_\_\_\_

	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6
1. Date taught (month and date, e.g. 11/2)						
2. Minutes of class time on science each day						
3. Minutes of preparation each day						
4. Students absent on each date (Use ID Number)						

BSCS USE: Post \_\_\_\_\_ Tally \_\_\_\_\_ Rev \_\_\_\_\_

1. Date taught (month and date, e.g. 11/2)

2. Minutes of class time on science each day

3. Minutes of preparation each day

4. Students absent on each date (Use ID Number)

5. Interest of class as expressed by apparent attention to what is happening.

Number of students responding with: \_\_\_\_\_ Name students you noted especially: \_\_\_\_\_  
(Number)

HIGH INTEREST	_____
MODERATE INTEREST	_____
INDIFFERENCE	_____
MODERATE RESISTANCE	_____
STRONG DISLIKE	_____
HARD TO RATE	_____

6. Equipment in kit: ☐ None ☐ Satisfactory ☐ Too fragile ☐ Too complicated ☐ Difficult to use

7. Equipment I got: ☐ None ☐ Easy to get ☐ Hard to get, but okay ☐ Hard to get, add to kit ☐ Unobtainable, add to kit

8. Materials used:

Worksheet #	Game #	Slides (show slide nos.)	Transparency #	Card(s) #	Tape(s) #	Other #
Worthwhile as						
Revise slightly						
Revise much						
Worthless: omit						

9. Maturity level is ☐ just right ☐ too childish ☐ too mature Explain:

10. Vocabulary level is ☐ just right ☐ too easy ☐ too difficult Explain:

11. Were teacher instructions clear enough to follow? ☐ Yes ☐ No - Pages and Problem:

12. Were clues to success and reviews of success helpful? ☐ Yes ☐ No - Why not?

13. Did the activity fulfill the purpose stated by the Guide? ☐ Yes ☐ No - Comment:

14. Were any parts of this activity omitted? ☐ No ☐ Yes - Explain:

15. Your rating of this activity:  
☐ Worthwhile ☐ Of value--needs the ☐ Worth salvaging--make ☐ Worthless

8. Materials used:	Worksheet #   #   #	Game #	Slides (show slide nos.)	Transparency #   #   #	Card(s) #	Tape (s) #	Other #
Worthwhile as is							
Revise slightly							
Revise much							
Worthless: omit							

9. Maturity level is ☐ just right ☐ too childish ☐ too mature Explain:
10. Vocabulary level is ☐ just right ☐ too easy ☐ too difficult Explain:
11. Were teacher instructions clear enough to follow? ☐ Yes ☐ No - Pages and Problem:
12. Were clues to success and reviews of success helpful? ☐ Yes ☐ No - Why not?
13. Did the activity fulfill the purpose stated by the Guide? ☐ Yes ☐ No - Comment:
14. Were any parts of this activity omitted? ☐ No ☐ Yes - Explain:
15. Your rating of this activity:  
☐ Worthwhile ☐ Of value--needs the ☐ Worth salvaging--make ☐ Worthless  
--keep as is revision suggested major changes described --drop it  
-----

SPECIFIC CONCERNS ABOUT THIS ACTIVITY:

16. There are always parts of activities that are good and need not be changed.  
What parts of this activity should be retained when the curriculum is revised?  
Page(s) \_\_\_\_\_:

17. Indicate how many students could identify each scene from the first slide (closest view)?
- |      |      |      |      |      |      |
|------|------|------|------|------|------|
| 1    | 2    | 3    | 4    | 5    | 6    |
| none | none | none | none | none | none |
| some | some | some | some | some | some |
| many | many | many | many | many | many |

18. Did you show the slides a second time?  
☐ Yes ☐ No: Why not?
19. Concern (or questions) about content:
20. Messages for staff (read immediately):

UNIT I, CORE A  
ACTIVITY 1-5: "Zoom In, Zoom Out"

Teacher \_\_\_\_\_

REPORT OF WHAT HAPPENED AND SUGGESTIONS FOR REVISION

1. Whenever practical write all over your second copy of the Guide. Tear out the activity and send the annotated Guide in with this form.
2. Make specific suggestions - exactly what you think should appear in the Guide.
3. Tell us what you did. Think of what you needed, what you had to work out for yourself, how you presented something to make it go over.
4. Describe the revisions you said were needed in answering the questions on the other side of this form.
5. As a reminder of things that help in revision, read through the following list and check off things you want to be sure to note this time. (We know you can't tell about everything every time!)

THE LESSON

- ☐ how you organized materials or class.
- ☐ things added (a question, a picture, etc.).
- ☐ equipment, supplies, visual aids.
- ☐ things that went wrong, misunderstandings.
- ☐ what you would do differently or avoid next time.
- ☐ turmoil in the class caused by the activity, or disruptive students, or interruptions, and how you dealt with them.

THE STUDENTS

- ☐ who had problems and what they were.
- ☐ how someone "caught on" (or who never did).
- ☐ who was really "turned off" (or on).
- ☐ reactions of parents, teachers, students.
- ☐ special evidence of learning or applying ideas.



## Me and my Environment

### OBJECTIVE FOCUS FOR THIS ACTIVITY

#### UNIT GOALS:

1. Explore his immediate environment through a variety of sensory experiences and physical contacts.
2. Recognize the environmental components essential for all living things.
3. Create a greater interest in, and a more sensitive attitude toward, his environment.

#### CORE A OBJECTIVES:

1. Expand the use of his senses.
2. Identify a wide variety of things in his environment.
3. Identify some qualities that make environments alike or different.
4. Determine the relationship he has with other living things.

### MATERIALS

### TEACHING STRATEGIES

#### Activity 1-6. Sounds From My Environment

*Through this activity the student will realize that much of our environment can be perceived through the sense of hearing. The student will identify various components of the environment by listening to their sounds. A slide picturing the source of some of the sounds will provide reinforcement of the students' guesses about what sounds they hear. The students will conclude that the accuracy of their guesses about sounds can be increased with the addition of visual clues.*

FOR THIS ACTIVITY

Explore his immediate environment through a variety of sensory experiences and physical contacts.

Recognize the environmental components essential for all living things.

Create a greater interest in, and a more sensitive attitude toward, his environment.

OBJECTIVES:

Expand the use of his senses.

Identify a wide variety of things in his environment.

Identify some qualities that make environments alike or different.

Determine the relationship he has with other living things.

TEACHING STRATEGIESSounds From My Environment

During this activity the student will realize that much can be perceived through the sense of hearing. The student will identify various components of the environment by listening to their sounds. A slide showing the source of some of the sounds will provide the students' guesses about what sounds. The students will conclude that the accuracy of their guesses about sounds can be increased with the use of additional clues.

UNIT I.

EXPLORING MY ENVIRONMENT



CORE A.

SENSING MY ENVIRONMENT

**BSCS**

ACTIVITY 1-6.

SOUNDS FROM MY ENVIRONMENT

ANTICIPATED STUDENT BEHAVIORS

At the end of this activity, each student should:

- have listened to the tape of environmental sounds.
- have identified the source of each taped sound.
- conclude that guesses can be improved with the addition of more information.



ACTIVITY 1-6

48

MATERIALS

- \*35mm Slide projector  
Slides 1-20 through 1-27
- \*Cassette tape recorder  
Tape of environmental sounds

\*Not furnished in materials kit

TEACHING STRATEGIES

Begin the activity by asking:

WE HAVE SEEN THAT OUR EYES HELP US LEARN ABOUT  
OUR ENVIRONMENT. ARE SOUNDS A PART OF OUR  
ENVIRONMENT?

CAN YOU TELL WHAT AN OBJECT IN YOUR ENVIRONMENT  
IS JUST BY HEARING IT?

LET'S TRY TO LISTEN AND TO FIND OUT. DO NOT  
TELL ANYONE WHAT THE SOUND IS; JUST RAISE  
YOUR HAND WHEN YOU THINK YOU KNOW WHAT IT IS.

The first three sounds on the tape are purposely made easy  
to start students on a successful listening experience.  
After listening to the sound most students will have their  
hands up.

Turn on the tape recorder and play the first sound (siren).

Ask a volunteer:

(Student's name), WHAT MADE THE SOUND?

Ask the class:

DOES EVERYONE AGREE WITH (student's name)?

ASK-F  
OTHER ID

## TEACHING STRATEGIES

ity by asking:

EN THAT OUR EYES HELP US LEARN ABOUT  
MENT. ARE SOUNDS A PART OF OUR  
T?

LL WHAT AN OBJECT IN YOUR ENVIRONMENT  
HEARING IT?

TO LISTEN AND TO FIND OUT. DO NOT  
E WHAT THE SOUND IS; JUST RAISE  
WHEN YOU THINK YOU KNOW WHAT IT IS.

sounds on the tape are purposely made easy  
ts on a successful listening experience.  
to the sound most students will have their

e recorder and play the first sound (siren).

(name), WHAT MADE THE SOUND?

ONE AGREE WITH (student's name)?

## ANTICIPATED STUDENT BEHAVIORS

Students:

--relate sound with something they are exposed  
to and therefore something in their environment  
and respond, "Yes."

--respond, "Sure," "No."

--raise hands as they identify the siren.

--respond, "Police car," "Siren."

--should agree.

  
**ASK FOR  
OTHER IDEAS**

## MATERIALS

## TEACHING STRATEGIES

Allow students to discuss any disagreements that may arise.

Then ask:

WHAT THINGS HAVE SIRENS ON THEM?

WHAT WOULD YOU DO WHEN YOU ARE DRIVING AND YOU  
HEAR A SIREN?

IS A SIREN SOUND A PART OF YOUR ENVIRONMENT?

Then say:

LET'S TRY ANOTHER SOUND.

Turn on the tape recorder and play the second sound (farm). Again instruct students not to state what they think the sound is but to raise their hands when they think they know what it is. This will allow all students a chance to listen and make choices for themselves. When all students have responded with a show of hands, ask:

(Student's name), WHAT MADE THE SOUND?

Ask the class:

DOES EVERYONE AGREE WITH (student's name)?

Allow students to discuss any disagreements that may arise.

Then ask:

COULD WE TELL WHERE WE WERE FROM THE SOUND OF  
THE SIREN?

COULD WE TELL WHERE WE WERE WITH THE SECOND  
SOUND?

## CHING STRATEGIES

Discuss any disagreements that may arise.

HE SIRENS ON THEM?

DO WHEN YOU ARE DRIVING AND YOU

A PART OF YOUR ENVIRONMENT?

ER SOUND.

Order and play the second sound (farm).  
nts not to state what they think the  
e their hands when they think they know  
ll allow all students a chance to  
es for themselves. When all students  
show of hands, ask:

, WHAT MADE THE SOUND?

AGREE WITH (student's name)?

Discuss any disagreements that may arise.

HERE WE WERE FROM THE SOUND OF

HERE WE WERE WITH THE SECOND

## ANTICIPATED STUDENT BEHAVIORS

ACTIVITY 1-6

49

Students:

--should give examples such as, "Police cars," "Fire trucks," etc.

--respond, "Pull over to the side of the road and get out of the way."

--probably will agree it is.

--raise hands as they identify the farm.

--respond, "A farm," "Animals."

--will probably agree.

--respond, "No," or "Near a road somewhere."

--respond, "Yes, on a farm."

ACTIVITY 1-6

(50)

MATERIALS

Slide 1-20



TEACHING STRATEGIES

DO ALL SOUNDS GIVE US THE SAME KIND OF INFORMATION?

Now turn on the tape recorder and play the third sound (cat). Repeat the above strategy again, having students raise their hands in response to the sound. When ample listening time has passed, ask:

(Student's name), WHAT MADE THE SOUND?

Ask the class:

DOES EVERYONE AGREE WITH (student's name)?

Allow students to discuss any disagreements that may arise.

Then ask:

DO YOU KNOW WHERE THIS CAT WAS WHEN HE MADE THE SOUND?

WHAT MIGHT HELP YOU IDENTIFY SOUNDS BETTER?  
OR WHAT WOULD YOU LIKE TO USE TO HELP YOU IDENTIFY SOUNDS?

Now project Slide 1-20 and ask:

WHAT SOUNDS DO YOU THINK YOU COULD HEAR AT THIS PLACE?

GIVE  
STUDENT  
TO R

## TEACHING STRATEGIES

GIVE US THE SAME KIND OF INFORMATION?

Use the recorder and play the third sound above strategy again, having students respond in response to the sound. When ample time has passed, ask:

(name), WHAT MADE THE SOUND?

AGREE WITH (student's name)?

Discuss any disagreements that may arise.

WHERE WAS THIS CAT WHEN HE MADE THE SOUND?

DO YOU IDENTIFY SOUNDS BETTER?

DO YOU LIKE TO USE TO HELP YOU IDENTIFY SOUNDS?

Wait 20 seconds and ask:

DO YOU THINK YOU COULD HEAR AT THIS PLACE?

## ANTICIPATED STUDENT BEHAVIORS

Students:

--conclude that different sounds will give us different information.


--respond, "A cat."

--will probably agree.

--respond, "No," "Could be anywhere."

--respond, "If I could hear better," "If I could see what is making the sound," "I don't know."

--respond, "Sawing wood," or may imitate actual sounds they think they might hear at this place.

  
GIVE SEVERAL  
STUDENTS A CHANCE  
TO RESPOND

## MATERIALS

## TEACHING STRATEGIES

After students have expressed their versions of the sounds say:

NOW LET'S LISTEN TO THE SOUND MADE BY THIS PICTURE.

WAS THE SOUND LIKE THOSE OR WHAT WE PREDICTED?

COULD YOU HAVE DESCRIBED THE PICTURE FROM THE SOUND IF I HAD NOT SHOWN YOU THE PICTURE?

LET'S TRY A GUESS, USING THE SOUND BEFORE THE PICTURE.

Now turn on the tape recorder and play sound number five (motorcycle). Then ask:

HOW MANY KNOW WHAT THE SOUND IS?

(Student's name), WHAT DO YOU THINK IT IS?

Ask the class:

DOES EVERYONE AGREE WITH (student's name)?

Allow students to discuss any disagreements that may arise.



ASK FOR  
OTHER IDEAS

## TEACHING STRATEGIES

## ANTICIPATED STUDENT BEHAVIORS

ACTIVITY 1-6

(51)

Students:



expressed their versions of the

THEN TO THE SOUND MADE BY THIS

LIKE THOSE OR WHAT WE PREDICTED?

DESCRIBED THE PICTURE FROM THE  
D NOT SHOWN YOU THE PICTURE?

GUESS, USING THE SOUND BEFORE THE

pe recorder and play sound number  
Then ask:

WHAT THE SOUND IS?

(name), WHAT DO YOU THINK IT IS?

AGREE WITH (student's name)?

discuss any disagreements that may

--listen to the wood-sawing sounds.

--respond, "Yes."

--respond boldly, "Of course."

--raise hands appropriately.

--respond with a guess.

--probably will agree.

ASK FOR  
OTHER IDEAS



ACTIVITY 1-6

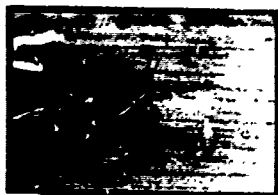
52

MATERIALS

Slide 1-21



Slide 1-22



TEACHING STRATEGIES

Then ask:

DO YOU KNOW WHERE THIS MOTORCYCLE IS?

HOW MIGHT YOU LEARN WHERE IT IS?

LET'S GUESS BEFORE WE SEE THE PICTURE.

Now show Slide 1-21.

WHAT DO YOU NOW KNOW THAT YOU DIDN'T KNOW  
FROM JUST THE SOUND?

Succeeding sounds will become more difficult to recognize and disagreements should arise. Capitalize on these disagreements and allow students to defend their guesses. After much time for discussion in each case, showing the accompanying slide should lead the students to conclude that seeing where the sound comes from helps them to make better guesses about the sounds and locations. Students should realize at the end of this lesson that sight plus sound is better than either one separately.

GIVE SEVERAL  
STUDENTS A  
TO RESPOND

## TEACHING STRATEGIES

HOW WHERE THIS MOTORCYCLE IS?  
YOU LEARN WHERE IT IS?  
ESS BEFORE WE SEE THE PICTURE.

1-21.


YOU NOW KNOW THAT YOU DIDN'T KNOW  
THE SOUND?

ends will become more difficult to recognize  
nts should arise. Capitalize on these  
and allow students to defend their guesses.  
e for discussion in each case, showing the  
lide should lead the students to conclude  
ere the sound comes from helps them to make  
about the sounds and locations. Students  
at the end of this lesson that sight plus  
r than either one separately.

## ANTICIPATED STUDENT BEHAVIORS

Students:

--respond, "No."  
--respond, "Look at the picture."  
--should give a variety of guesses.

  
**GIVE SEVERAL  
STUDENTS A CHANCE  
TO RESPOND**

--should analyze the slide and relate details not  
known from the sound alone. Expect such things as;  
"One person was on the cycle."  
"It had a 1971 Colorado license plate."  
"The person was driving on a blacktopped street."  
"Since there is a curbing the street is probably in  
a town."  
"The driver was wearing a safety helmet."  
"Judging from the clothing worn, it was fairly  
warm outside on the day the picture was taken."

## MATERIALS

Slide 1-23



Slide 1-24



Slide 1-25



## TEACHING STRATEGIES

Emphasize throughout the remainder of the sounds and slides that as we acquire more information, we make better predictions.

The remaining sounds and slides are outlined below:

#6	Crickets	Slide 1-22
#7	Jet Take Off	Slide 1-23
#8	Toilet Flushing	Slide 1-24
#9	Wind	Slide 1-25
#10	Thunder	Slide 1-26
#11	Surf	Slide 1-27

Use a similar strategy as you play each remaining sound and show the accompanying slide. Below is outlined a model strategy for sound #10 (Thunder).

Play the sound for a few seconds and then stop the tape. Say:

RAISE YOUR HAND IF YOU THINK YOU KNOW WHAT THE SOUND IS.

Turn the tape recorder back on and continue to play the sound to the end. Then say:

NOW HOW MANY THINK THEY CAN GUESS WHAT THE SOUND IS?

WHY CAN MORE OF YOU GUESS NOW THAN WHEN I STOPPED THE FIRST TIME?

(Student's name), WHAT HAVE YOU GUESSED?

WHY DID YOU GUESS THAT?

DOES ANYONE HAVE A DIFFERENT GUESS?

Pick a volunteer and ask:

## TEACHING STRATEGIES

At the remainder of the sounds and  
acquire more information, we make better

ss and slides are outlined below:

ickets	Slide 1-22
c Take Off	Slide 1-23
ilet Flushing	Slide 1-24
ad	Slide 1-25
under	Slide 1-26
rf	Slide 1-27

tegy as you play each remaining sound  
anying slide. Below is outlined a  
sound #10 (Thunder).

a few seconds and then stop the

LD IF YOU THINK YOU KNOW WHAT THE

order back on and continue to play the  
Then say:

HINK THEY CAN GUESS WHAT THE SOUND

IF YOU GUESS NO / THAN WHEN I  
FIRST TIME?

me), WHAT HAVE YOU GUESSED?

GUESS THAT?

AVE A DIFFERENT GUESS?

nd ask:

## ANTICIPATED STUDENT BEHAVIORS

ACTIVITY 1-6

53

Students:

--raise hands appropriately.

--raise hands appropriately.

--respond, "We heard it longer."

--give a guess such as "Bowling balls."

--respond, "It sounded like bowling balls."

--raise hands appropriately.

ACTIVITY 1-6

54

MATERIALS

Slide 1-26



Slide 1-27



TEACHING STRATEGIES

(Student's name), WHAT IS YOUR GUESS?

WHY DID YOU GUESS THAT? WHAT CLUES DID YOU HAVE?

After all guesses have been stated and defended, ask:

ARE ALL OF OUR GUESSES GOOD?

Assure students that many guesses are possible and worthy, based only on sound.

Now show Slide 1-26 and ask:

WHAT GUESS WAS PROBABLY BEST? WHY?

HOW DOES THE SLIDE HELP US?

After all sounds have been heard and all accompanying slides shown, ask:

CAN WE LEARN ABOUT OUR ENVIRONMENT BY LISTENING CAREFULLY?

CAN WE LEARN ABOUT OUR ENVIRONMENT BY LOOKING CAREFULLY?

WHICH ONE WILL PROBABLY TELL US THE MOST?

WHAT SHOULD YOU DO IF YOU WANT TO LEARN THE MOST ABOUT YOUR ENVIRONMENT?

## TEACHING STRATEGIES

...e), WHAT IS YOUR GUESS?

...ESS THAT? WHAT CLUES DID YOU

...ave been stated and defended, ask:

...GUESSES GOOD?

...t many guesses are possible and worthy,

...and ask:

...PROBABLY BEST? WHY?

...LIDE HELP US?

...ave been heard and all accompanying

...ABOUT OUR ENVIRONMENT BY LISTENING

...ABOUT OUR ENVIRONMENT BY LOOKING

...L PROBABLY TELL US THE MOST?

...OU DO IF YOU WANT TO LEARN THE  
...OUR ENVIRONMENT?

## ANTICIPATED STUDENT BEHAVIORS

Students:

--give a different guess such as, "Thunder."

--respond, "It sounded like thunder."

--respond, "Yes," "No, mine is best."

--respond, "Thunder," analyze picture and  
justify some guesses and rule out others.

--respond, "It gives us further clues as to what we  
are hearing," "It pictured things (rainbow, storm  
clouds, rain streaks) that go along with thunder."

--respond, "Yes."

--respond, "Yes."

--probably will respond, "Seeing."

--conclude that one should look and listen to learn  
the most.

UNIT 1, CORE A  
ACTIVITY 1-6: "Sounds From My Environment"

Teacher

Activity name suggested by class:

BSCS USE:	Post	Day 3	Day 4	Day 5	Day 6
Tally	Tally				
Rev	Rev				

	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6
1. Date taught (month and date, e.g. 11/2)						
2. Minutes of class time on science each day						
3. Minutes of preparation each day						
4. Students absent on each date (Use ID Number)						

5. Interest of class as expressed by apparent attention to what is happening.Number of students responding with: Name students you noted especially:  
(Number)

HIGH INTEREST	_____	_____	_____	_____	_____	_____
MODERATE INTEREST	_____	_____	_____	_____	_____	_____
INDIFFERENCE	_____	_____	_____	_____	_____	_____
MODERATE RESISTANCE	_____	_____	_____	_____	_____	_____
STRONG DISLIKE	_____	_____	_____	_____	_____	_____
HARD TO RATE	_____	_____	_____	_____	_____	_____

6. Equipment in kit: ☐ None ☐ Satisfactory ☐ Too fragile ☐ Too complicated ☐ Difficult to use7. Equipment I got: ☐ None ☐ Easy to get ☐ Hard to get, add to kit ☐ Unobtainable, add to kit

Materials used:	Worksheet #	Game #	Slides (show slide nos.)	Transparency #	Card(s) #	Tape(s) #	Other #
Worthwhile as is							
Revise slightly							
Revise much							
Worthless: omit							

9. Maturity level is ☐ just right ☐ too childish ☐ too mature Explain:10. Vocabulary level is ☐ just right ☐ too easy ☐ too difficult Explain:11. Were teacher instructions clear enough to follow? ☐ Yes ☐ No - Pages and Problem:12. Were clues to success and reviews of success helpful? ☐ Yes ☐ No - Why not?13. Did the activity fulfill the purpose stated by the Guide? ☐ Yes ☐ No - Comment:14. Were any parts of this activity omitted? ☐ No ☐ Yes - Explain:

15. Your rating of this activity:

☐ Worthwhile ☐ Of value--needs the ☐ Worth salvaging--make ☐ Worthless  
--keep as is revision suggested major changes described --drop it

SPECIFIC CONCERNS ABOUT THIS ACTIVITY.

Materials used:	Worksheet #   #   #	Game #	Slides (show slide nos.)	Transparency #   #   #	Card(s) #	Tape(s) #	Other #
Worthwhile as is							
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11. Were teacher instructions clear enough to follow? ☐ Yes ☐ No - Pages and Problem:
12. Were clues to success and reviews of success helpful? ☐ Yes ☐ No - Why not?
13. Did the activity fulfill the purpose stated by the Guide? ☐ Yes ☐ No - Comment:
14. Were any parts of this activity omitted? ☐ No ☐ Yes - Explain:
15. Your rating of this activity:  
☐ Worthwhile ☐ Of value--needs the ☐ Worth salvaging--make ☐ Worthless  
 --keep as is revision suggested major changes described --drop it--  
 -----  
 SPECIFIC CONCERNS ABOUT THIS ACTIVITY:

16. There are always parts of activities that are good and need not be changed.  
 What parts of this activity should be retained when the curriculum is revised?  
 Page(s) \_\_\_\_\_:

17. Were students unable to identify any of the following sounds before you showed the slide?  
 No Yes  
 If yes, circle the sound and comment:  
 crickets jet toilet wind thunder surf
18. Concern (or questions) about content:
19. Messages for staff (read immediately):

BSCS Evaluation: EMH Feedback Form 1c

Have you answered each question, attached annotated Guide, your revisions, student work, etc.?



Teacher \_\_\_\_\_

## REPORT OF WHAT HAPPENED AND SUGGESTIONS FOR REVISION

1. Whenever practical write all over your second copy of the Guide. Tear out the activity and send the annotated Guide in with this form.
2. Make specific suggestions - exactly what you think should appear in the Guide.
3. Tell us what you did. Think of what you needed, what you had to work out for yourself, how you presented something to make it go over.
4. Describe the revisions you said were needed in answering the questions on the other side of this form.
5. As a reminder of things that help in revision, read through the following list and check off things you want to be sure to note this time. (We know you can't tell about everything every time!)

## THE LESSON

- ☐ how you organized materials or class.
- ☐ things added (a question, a picture, etc.).
- ☐ equipment, supplies, visual aids.
- ☐ things that went wrong, misunderstandings.
- ☐ what you would do differently
  - or avoid next time.
- ☐ turmoil in the class caused by the activity, or disruptive students, or interruptions, and how you dealt with them.

## THE STUDENTS

- ☐ who had problems and what they were.
- ☐ how someone "caught on" (or who never did).
- ☐ who was really "turned off" (or on).
- ☐ reactions of parents, teachers, students.
- ☐ special evidence of learning or applying ideas.



## Me and my Environment

### OBJECTIVE FOCUS FOR THIS ACTIVITY

#### UNIT GOALS:

1. Explore his immediate environment through a variety of sensory experiences and physical contacts.
2. Recognize the environmental components essential for all living things.
3. Create a greater interest in, and a more sensitive attitude toward, his environment.

#### CORE A OBJECTIVES:

1. Expand the use of his senses.
2. Identify a wide variety of things in his environment.
3. Identify some qualities that make environments alike or different.
4. Determine the relationship he has with other living things.

### MATERIALS

### TEACHING STRATEGIES

#### Activity 1-7. Environmental Orchestra

*This activity will develop an awareness that sounds are generally heard in conjunction with other sounds rather than in isolation, and that certain sounds are clues to certain kinds of environments. In addition this activity will further help to develop the importance of listening.*

US FOR THIS ACTIVITY

US:

Explore his immediate environment through a variety of sensory experiences and physical contacts.

Recognize the environmental components essential for all living things.

Create a greater interest in, and a more sensitive attitude toward, his environment.

OBJECTIVES:

Expand the use of his senses.

Identify a wide variety of things in his environment.

Identify some qualities that make environments alike or different.

Determine the relationship he has with other living things.

**TEACHING STRATEGIES**Environmental Orchestra

will develop an awareness that sounds are heard in conjunction with other sounds rather than in isolation, and that certain sounds are clues to the kind of environments. In addition this activity will help to develop the importance of listening.

UNIT I. EXPLORING MY ENVIRONMENT



CORE A. SENSING MY ENVIRONMENT

**BSCS**

ACTIVITY 1-7. ENVIRONMENTAL ORCHESTRA

**ANTICIPATED STUDENT BEHAVIORS**

At the end of this activity, each student should:

- have listened to sounds first in isolation, then in conjunction with other sounds.
- have attempted to identify the kind of environment in which the sounds would be heard.
- have realized that sounds are a part of our environment.
- have gained the information that sounds are both helpful and harmful to us.

ACTIVITY 1-7

56

MATERIALS

\*Cassette tape recorder  
Cassettes of taped environmental sounds

\*Not furnished in materials kit

TEACHING STRATEGIES

Teacher Preparation:

1. Have the cassette and tape player ready for use.
2. The class should be held in a room than can be darkened.
3. Listen to the tapes prior to the class so you will be familiar with the sequence of sounds and know when to stop the tape.

The first sequence of sounds, Set A (marshy end of a lake), was recorded in the following manner:

General marsh sound (as this fades, stop the recorder and ask the students to identify as many of the discrete sounds as they can. Then continue on to the component sounds as indicate below)

Splash (stop for discussion)

Splash, bird sound (stop for discussion)

Splash, bird sound, frog croak (stop for discussion)

Splash, bird sound, frog croak, footsteps (stop for discussion)

Splash, bird sound, frog croak, footsteps, motor boat (stop for discussion)

The remaining five sets of sounds are recorded differently. The sounds are not repeated and the students will remain quiet until they have heard the entire sequence.

## TEACHING STRATEGIES

ette and tape player ready for use.

ld be held in a room than can be

tapes prior to the class so you  
ar with the sequence of sounds  
to stop the tape.

ence of sounds, Set A (marshy end  
s recorded in the following manner:

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and ask the students to identify as  
e discrete sounds as they can. Then  
on to the component sounds as indicated

op for discussion)

rd sound (stop for discussion)

rd sound, frog croak (stop for  
h)

rd sound, frog croak, footsteps  
discussion)

rd sound, frog croak, footsteps,  
r (stop for discussion)

five sets of sounds are recorded  
The sounds are not repeated and the  
remain quiet until they have heard  
quence.

## ANTICIPATED STUDENT BEHAVIORS

## MATERIALS

## TEACHING STRATEGIES

Sounds include among others:

Set B (airport): Fountain, people talking, footsteps, jets, P.A. (stop for discussion)

Set C (park): Swimming pool, birds, kids on play equipment (stop for discussion)

Set D (farm): Hand pump, chickens, cows, tractor (stop for discussion)

Set E (city street): Fire hydrant, pigeons, people walking, traffic, crowd talking (stop for discussion)

Set F (woodland - rural): Stream, birds, person walking, branches breaking, chain saw (stop for discussion)

Begin the class by darkening the room. Pull the shades and turn out the lights.

Say:

WE ARE GOING TO SEE A MOVIE, BUT IT WILL BE VERY DIFFERENT FROM THE ONES WE USUALLY SEE. IN ORDER TO HAVE A MOVIE SCREEN YOU WILL NEED TO CLOSE YOUR EYES. YOUR EYELIDS WILL BE YOUR SCREEN.

IN ORDER TO SEE THIS MOVIE, YOU MUST USE YOUR IMAGINATION AND FORM THE PICTURES IN YOUR MIND. NOW GET COMFORTABLE, CLOSE YOUR EYES, AND WITHOUT MAKING A SOUND, LISTEN CLOSELY. LATER WE'LL TALK ABOUT WHAT YOU SAW.

## TEACHING STRATEGIES

others:

port): Fountain, people talking,  
footsteps, jets, P.A. (stop  
for discussion)

t): Swimming pool, birds, kids on play  
equipment (stop for discussion)

n): Hand pump, chickens, cows, tractor  
(stop for discussion)

y street): Fire hydrant, pigeons,  
people walking, traffic,  
crowd talking (stop for  
discussion)

land - rural): Stream, birds, person  
walking, branches  
breaking, chain saw  
(stop for discussion)

darkening the room. Pull the shades  
nts.

SEE A MOVIE, BUT IT WILL BE  
FROM THE ONES WE USUALLY SEE.  
E A MOVIE SCREEN YOU WILL  
OUR EYES. YOUR EYELIDS WILL

THIS MOVIE, YOU MUST USE YOUR  
FORM THE PICTURES IN YOUR MIND.  
ABLE, CLOSE YOUR EYES, AND  
A SOUND, LISTEN CLOSELY.  
K ABOUT WHAT YOU SAW.

## ANTICIPATED STUDENT BEHAVIORS

ACTIVITY 1-7

57

Students:

--may ask questions such as, "Are we going to see  
a movie?", "Are we going to see more slides?"

--will be quiet and listen.

ACTIVITY 1-7

58

MATERIALS

TEACHING STRATEGIES

Now turn on the tape recorder and have the students listen to the general marsh sound (splash). Stop the tape.

Ask:

WHAT DID YOU HEAR?

WHERE DO YOU THINK YOU ARE?

Then start the tape and listen to the first specific sound taken in the same general habitat.

Ask:

WHAT DID YOU HEAR?

If students say, "Water," ask:

WHY DO YOU SAY IT WAS WATER?

PRETEND NOW THAT YOU ARE IN THE PLACE WHERE THE SOUND CAME FROM. WHERE WOULD YOU BE?

Then say:

LET'S LISTEN AGAIN FOR ANOTHER SOUND THAT MIGHT HELP US DECIDE WHERE WE ARE.

Turn the tape on again and listen. This time two sounds will be heard: splash, bird sound. Stop the tape.

Ask:

WHAT DID YOU HEAR THIS TIME? WHAT MADE THE SOUNDS? WHERE ARE YOU NOW?



## ING STRATEGIES

order and have the students listen  
und (splash). Stop the tape.

YOU ARE?

listen to the first specific sound  
al habit.

," ask:

WAS WATER?

OU ARE IN THE PLACE WHERE  
M. WHERE WOULD YOU BE?

FOR ANOTHER SOUND THAT  
DE WHERE WE ARE.

and listen. This time two sounds  
bird sound. Stop the tape.

THIS TIME? WHAT MADE THE  
YOU NOW?

## ANTICIPATED STUDENT BEHAVIORS

Students:

--respond, "Birds, frogs, and insects."

--give a variety of guesses which will be confirmed  
or negated later on.

--respond, "Water," "I'm not sure."

--explain why the sound reminded them of water.

--guess where they might be and respond with such  
comments as, "Pond," "Canoe," etc.

--give varied responses.

INVOLVE YOUR  
SLOWEST  
STUDENTS

## MATERIALS

## TEACHING STRATEGIES

ASK F  
OTHER ID

Then say:

LET'S LISTEN AGAIN TO SEE IF YOU REALLY ARE  
WHERE YOU THINK YOU ARE. LISTEN.

Turn the tape on again. This time they will hear three  
sounds: splash, bird sound, frog croak.

Ask the same three questions as before, then continue in  
a like manner for the remainder of Set A. After the  
last sound in Set A has been heard, say:

WHAT DID YOU HEAR?

WHAT MADE THE SOUND?

WHERE ARE YOU NOW?

WHAT CLUES DID YOU HEAR THAT HELPED YOU DECIDE  
WHERE YOU WERE?

WHY COULDN'T YOU TELL RIGHT AWAY WHERE YOU  
WERE?

HOW ARE ALL THESE SOUNDS RELATED?

GIVE SEVE  
STUDENTS A  
TO RESP

## TEACHING STRATEGIES

## ANTICIPATED STUDENT BEHAVIORS

ACTIVITY 1-7

59

Students:

### ASK FOR OTHER IDEAS

GAIN TO SEE IF YOU REALLY ARE  
YOU ARE. LISTEN.

ain. This time they will hear three  
d sound, frog croak.

questions as before, then continue in  
the remainder of Set A. After the  
has been heard, say:

HEAR?

OUND?

--attempt to determine the environment where the  
sounds were recorded.

--give a variety of answers.

--give a variety of answers.

### GIVE SEVERAL STUDENTS A CHANCE TO RESPOND

OW?

YOU HEAR THAT HELPED YOU DECIDE

YOU TELL RIGHT AWAY WHERE YOU

SE SOUNDS RELATED?

--indicate that they didn't have enough information  
or clues.

--respond, "They all come from the same place."

ACTIVITY 1-7

60

MATERIALS

TEACHING STRATEGIES

NOTE: Not all students will picture themselves in the same environment. There is no exact environment that needs to be identified. The students may choose any place they envision as being the environment. However, ask them why they think the sounds came from that area or what helped them decide. Encourage imagination and diversity.

Upon completion of Set A, the students should have decided that they were somewhere near the water. If they haven't, allow them to listen to the final portion of Set A again and identify the sounds. Ask the students where the sounds could logically be found.

Now continue with the remaining sets of sounds (B through F).

Before beginning Set B, say:

THIS TIME YOU WILL HEAR ALL THE SOUNDS BEFORE THE TAPE IS STOPPED. AS YOU LISTEN TO EACH SOUND, TRY TO PICTURE IN YOUR MIND THE ENVIRONMENT THAT YOU ARE IN.

Turn on the tape and listen to each set of sounds. (Sets B through F.) After each set ask the following questions

WHAT PICTURE DO YOU SEE ON YOUR SCREEN?

WHERE DO YOU THINK YOU ARE?

GIV  
STUDE  
TO

## TEACHING STRATEGIES

All students will picture themselves in the environment. There is no exact environment needs to be identified. The students may place any place they envision as being the environment. However, ask them why they think sounds came from that area or what helped decide. Encourage imagination and diversity.

Upon completion of Set A, the students should have decided where the sounds came from. If they haven't, have them listen to the final portion of Set A again and identify the sounds. Ask the students where the sounds logically be found.

With the remaining sets of sounds (B through

During Set B, say:

BEFORE YOU WILL HEAR ALL THE SOUNDS BEFORE THE RECORDING IS STOPPED. AS YOU LISTEN TO EACH SET OF SOUNDS, TRY TO PICTURE IN YOUR MIND THE ENVIRONMENT THAT YOU ARE IN.

After each set of sounds. (Sets B through D) After each set ask the following questions:

WHAT DO YOU SEE ON YOUR SCREEN?


WHAT DO YOU THINK YOU ARE?

## ANTICIPATED STUDENT BEHAVIORS

Students:

--on the basis of the sounds heard, should have identified the environment in which the sounds were made as being somewhere near a lake, bay or river.

--give varied responses.

  
**GIVE SEVERAL  
STUDENTS A CHANCE  
TO RESPOND**

## MATERIALS

## TEACHING STRATEGIES

HOW MANY SOUNDS DID YOU HEAR BEFORE YOU  
WERE ABLE TO GUESS YOUR ENVIRONMENT?

HOW WERE ALL THE SOUNDS ALIKE?



When all sound sets have been played, ask:

IN WHAT WAY WERE THE PICTURES OF THE  
ENVIRONMENTS YOU SAW Alike?

HOW COULD YOU TELL WHAT ENVIRONMENT YOU WERE  
IN?

ARE SOUNDS A PART OF OUR ENVIRONMENT?

WHAT DID WE USE TO LISTEN TO THE SOUNDS?

IS IT IMPORTANT TO LISTEN TO SOUNDS IN  
ORDER TO LEARN ABOUT OUR ENVIRONMENT?

WHY?

COULD WE LEARN ABOUT OUR ENVIRONMENT  
WITHOUT OUR EARS?

HOW DO SOUNDS HELP US?

## TEACHING STRATEGIES

## ANTICIPATED STUDENT BEHAVIORS

ACTIVITY 1-7

61

Did you hear before you  
your environment?

Sounds alike?



HAVE YOU  
INVOLVED  
ALL  
STUDENTS?

Have been played, ask:

THE PICTURES OF THE  
SOUND ALIKE?

WHAT ENVIRONMENT YOU WERE

OF OUR ENVIRONMENT?

DO LISTEN TO THE SOUNDS?

DO LISTEN TO SOUNDS IN  
OUT OUR ENVIRONMENT?

OUT OUR ENVIRONMENT

US?

Students:

--describe characteristics which were similar such  
as, "All being on earth," "They all had sounds,"  
"They all had people in them," etc.

--respond, "By listening to the sounds."

--respond, "Yes."

--respond, "Our ears."

--respond, "Yes."

--respond, "They help us to tell where we are,"  
"Help us to know what sounds things make,"  
"Help us to know what's around us."

--respond, "Yes, sometimes," "Not as well," "Only  
about some things."

--respond, "To let others know how you feel," "To  
learn how others feel," "Tell us of danger,"  
"Provide pleasure, music," etc.

ACTIVITY 1-7

62

### MATERIALS

### TEACHING STRATEGIES

CAN YOU THINK OF ANY WAYS SOUNDS CAN HARM US?

DO ANY OF YOU ENJOY LISTENING TO ROCK BANDS OR TURNING UP THE VOLUME ON YOUR RADIO VERY LOUD?

LISTENING TO SOUNDS THAT ARE VERY LOUD FOR A LONG TIME, LIKE LOUD MUSIC, CAN DAMAGE YOUR HEARING FOR THE REST OF YOUR LIFE.

IS IT IMPORTANT TO TAKE CARE OF YOUR EYES AND YOUR HEARING?

WHY DO YOU THINK SO?



## STRATEGIES

WAYS SOUNDS CAN HARM

LISTENING TO ROCK BANDS  
VOLUME ON YOUR RADIO VERY

THAT ARE VERY LOUD FOR A  
MUSIC, CAN DAMAGE YOUR  
OF YOUR LIFE.

TAKE CARE OF YOUR EYES AND

## ANTICIPATED STUDENT BEHAVIORS

Students:

--respond, "I don't know," "No," "Loud  
sounds can scare us."

--respond, "Yes," "No," "Sure."

--respond, "Yes."

--respond, "So we can hear the sounds in our  
environment."

UNIT I, CORE A  
ACTIVITY 1-7: "Environmental Orchestra"

Activity name suggested by class:

Teacher

BSCS USE:	Post	Tally	Rev
Day 1	Day 2	Day 3	Day 4
Day 5	Day 6		

1.	Date taught (month and date, e.g. 11/2)								
2.	Minutes of class time on science each day								
3.	Minutes of preparation each day								
4.	Students absent on each date (Use ID Number)								

5. Interest of class as expressed by apparent attention to what is happening.

Number of students responding with: Name students you noted especially: (Number)

HIGH INTEREST	_____
MODERATE INTEREST	_____
INDIFFERENCE	_____
MODERATE RESISTANCE	_____
STRONG DISLIKE	_____
HARD TO RATE	_____

6. Equipment in kit: ☐ None ☐ Satisfactory ☐ Too fragile ☐ Too complicated ☐ Difficult to use
7. Equipment I got ☐ None ☐ Easy to get ☐ Hard to get, but okay ☐ Hard to get, add to kit ☐ Unobtainable, add to kit

8. Materials used:	Worksheet #	Game #	Slides (show slide nos.)	Transparency #	Card(s) #	Tape(s) #	Other #
Worthwhile as is							
Revise slightly							
Revise much							
Worthless: omit							

9. Maturity level is ☐ just right ☐ too childish ☐ too mature Explain:
10. Vocabulary level is ☐ just right ☐ too easy ☐ too difficult Explain:
11. Were teacher instructions clear enough to follow? ☐ Yes ☐ No - Pages and Problem:
12. Were clues to success and reviews of success helpful? ☐ Yes ☐ No - Why not?
13. Did the activity fulfill the purpose stated by the Guide? ☐ Yes ☐ No - Comment:
14. Were any parts of this activity omitted? ☐ No ☐ Yes - Explain:

15. Your rating of this activity:  
☐ Worthwhile ☐ Of value--needs the revision suggested ☐ Worth salvaging--make major changes described ☐ Worthless --drop it

Materials used:	Worksheet			Game			Slides (show slide nos.)			Transparency			Card(s)			Tape(s)			Other		
	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#
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--keep as is revision suggested major changes described --drop it

## SPECIFIC CONCERNS ABOUT THIS ACTIVITY:

16. There are always parts of activities that are good and need not be changed.  
What parts of this activity should be retained when the curriculum is revised?

Page(s) \_\_\_\_\_:

17. How many students had difficulty identifying environments from sounds?  
☐ None ☐ 1/4 ☐ 1/2 ☐ 3/4 ☐ All: Comment.
18. Were there any sounds which the students were unable to identify?  
☐ Yes ☐ No  
If yes, which ones?
19. Concern (or questions) about content:
20. Messages for staff (read immediately):
- BSCS Evaluation: EMH Feedback Form 1c

Have you answered each question, attached annotated Guide, your revisions, student work, etc.?

UNIT I, CORE A  
ACTIVITY 1-7: "Environmental Orchestra"

Teacher \_\_\_\_\_

REPORT OF WHAT HAPPENED AND SUGGESTIONS FOR REVISION

1. Whenever practical write all over your second copy of the Guide. Tear out the activity and send the annotated Guide in with this form.
2. Make specific suggestions - exactly what you think should appear in the Guide.
3. Tell us what you did. Think of what you needed, what you had to work out for yourself, how you presented something to make it go over.
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5. As a reminder of things that help in revision, read through the following list and check off things you want to be sure to note this time. (We know you can't tell about everything every time!)

THE LESSON

- ☐ how you organized materials or class.
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- ☐ equipment, supplies, visual aids.
- ☐ things that went wrong, misunderstandings.
- ☐ what you would do differently
  - or avoid next time.
- ☐ turmoil in the class caused by the activity, or disruptive students, or interruptions, and how you dealt with them.

THE STUDENTS

- ☐ who had problems and what they were.
- ☐ how someone "caught on" (or who never did).
- ☐ who was really "turned off" (or on).
- ☐ reactions of parents, teachers, students.
- ☐ special evidence of learning or applying ideas.



## Me and my Environment

### OBJECTIVE FOCUS FOR THIS ACTIVITY

#### UNIT GOALS:

1. Explore his immediate environment through a variety of sensory experiences and physical contacts.
3. Create a greater interest in, and a more sensitive attitude toward his environment.

#### CORE A OBJECTIVES:

1. Expand the use of his senses.
2. Identify a wide variety of things in his environment.
3. Identify some qualities that make environments alike or different.
4. Determine the relationship he has with other living things.

### MATERIALS

### TEACHING STRATEGIES

#### Activity 1-8. Sounds Around Us

*In the previous activity students listened to some sounds from an environment to determine its characteristics. In this activity the students will be given the opportunity to use a tape recorder to collect sounds within their own environment, and begin to make judgments on the nature and worth of certain sounds.*

THIS ACTIVITY

his immediate environment through  
ty of sensory experiences and  
l contacts.

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ve attitude toward his environment.

G:

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y a wide variety of things in his  
ment.

y some qualities that make  
ments alike or different.

ne the relationship he has with other  
things.

TEACHING STRATEGIESAround Us

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to determine its characteristics. In  
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n to make judgments on the nature and  
ds.

UNIT 1.

EXPLORING MY ENVIRONMENT



CORE A.

SENSING MY ENVIRONMENT

**BSCS**

ACTIVITY 1-8. SOUNDS AROUND US

ANTICIPATED STUDENT BEHAVIORS

*At the end of this activity, each student should:*

- have participated in a group which recorded environmental sounds that met the requirements listed on the search cards.
- have taken a picture of one of the areas where his group recorded sounds.
- have participated in guessing the source of sounds recorded by other groups.
- have evaluated sounds according to his own likes and dislikes.
- have listened to a tape of sounds from a selected environment and cut out magazine pictures that depicted it.

# ACTIVITY 1-8

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## MATERIALS

Camera

Tape recorder (several if possible)

Tapes of environmental sounds from Activity 1-7

\*Glue or paste

\*Construction paper

\*Scissors

\*Magazines

\*Teacher prepared tape of students while they were involved in Activity 1-2

\*Sound search cards: 3" X 5" index cards with the following written on them:

loud, soft  
sounds good, doesn't  
sound good  
harmful, not harmful  
scary, not scary  
man-made, natural  
exciting, dull  
repeated or regular, not  
regular  
high, low  
continuous, broken  
tells you something is  
wrong, tells you  
something is OK

\*3" X 5" index cards

\*Not furnished in materials kit

## TEACHING STRATEGIES

### Teacher Preparation:

1. Prior to this activity, you made a recording of students while they were involved in Activity 1-2. Use it in this activity.
2. Prepare sound search cards by writing one category on each 3" X 5" card.
3. You will have to obtain an extra tape recorder or tape play back in order to organize this activity as written. If you can not locate one, reorganize the activity to fit your situation.

### Begin by saying:

I HAVE PREPARED A SPECIAL TAPE FOR YOU TO LISTEN TO. YOU HAVE HAD PRACTICE GUESSING WHAT KIND OF ENVIRONMENT SOME SOUNDS CAME FROM. NOW SEE IF YOU CAN GUESS THIS ENVIRONMENT.

Turn on the tape recorder and wait for student responses.

### Then say:

WHICH OF THE SOUNDS THAT YOU HAVE JUST LISTENED TO DID YOU RECOGNIZE?

The students may want to hear the tape again. If so, replay the tape.

### Then ask:

DID YOU LIKE WHAT YOU HEARD? WHY? WHY NOT?

## TEACHING STRATEGIES

n:

s activity, you made a recording of  
le they were involved in Activity 1-2.  
is activity.

d search cards by writing one category  
5" card.

e to obtain an extra tape recorder or  
ck in order to organize this activity  
If you can not locate one, reorganize  
to fit your situation.

ED A SPECIAL TAPE FOR YOU TO  
OU HAVE HAD PRACTICE GUESSING  
ENVIRONMENT SOME SOUNDS CAME FROM.  
U CAN GUESS THIS ENVIRONMENT.

recorder and wait for student responses.

SOUNDS THAT YOU HAVE JUST LISTENED  
COGNIZE?

want to hear the tape again. If so,

WHAT YOU HEARD? WHY? WHY NOT?

## ANTICIPATED STUDENT BEHAVIORS

Students:

--will recognize their own voices and sounds.

--will identify voices of various individuals,  
chairs moving, things banging, etc.

--respond with such comments as, "It was too noisy,"  
"John was swearing," "It was fun hearing myself,"  
etc.



## MATERIALS

## TEACHING STRATEGIES

If most students liked what they heard, omit the following question. If they disliked the noise, say:

WHAT COULD WE DO ABOUT THE UNPLEASANT SOUNDS YOU HEARD?

Then say:

YOU HAVE JUST LISTENED TO THE ENVIRONMENT OF OUR CLASSROOM. NOW WE ARE GOING TO RECORD SOME OTHER SOUNDS WE HEAR AROUND OUR SCHOOL ENVIRONMENT. EACH GROUP WILL RECEIVE TWO OR THREE SOUND SEARCH CARDS. EACH CARD WILL TELL YOU TO FIND CERTAIN SOUNDS AND RECORD THEM ON TAPE. WHEN YOU RECORD THE SOUNDS, YOU WILL ALSO NEED TO TAKE A PICTURE OF WHERE THE SOUNDS CAME FROM.

At this time, depending on the experiences of your class, it might be necessary to explain how to operate the tape recorder. Demonstrate the proper operation to the entire class, and then allow each individual to operate the equipment, giving specific help where needed.

ACCE  
ANS

DEMON

## TEACHING STRATEGIES

## ANTICIPATED STUDENT BEHAVIORS

ACTIVITY 1-8

65

Students:

  
**ACCEPT ALL  
ANSWERS**

Students liked what they heard, omitting question. If they disliked say:

WE DO ABOUT THE UNPLEASANT  
HEARD?

--suggest various ways of changing their behavior so that the atmosphere is more pleasant for everyone in the classroom; such changes as talking more softly, or not talking as much, or not making loud noises might be suggested.

LISTENED TO THE ENVIRONMENT OF  
NOW WE ARE GOING TO RECORD SOME  
HEAR AROUND OUR SCHOOL  
EACH GROUP WILL RECEIVE TWO OR  
ARCH CARDS. EACH CARD WILL TELL  
CERTAIN SOUNDS AND RECORD THEM ON  
RECORD THE SOUNDS, YOU WILL  
MAKE A PICTURE OF WHERE THE SOUNDS

ding on the experiences of your class,  
try to explain how to operate the tape  
te the proper operation to the entire  
ow each individual to operate the  
specific help where needed.

**DEMONSTRATE**



ACTIVITY 1-8

66

## MATERIALS

## TEACHING STRATEGIES

AFTER THE GROUPS HAVE RECORDED THEIR SOUNDS WE WILL PLAY THEM BACK AND THE CLASS WILL TRY TO DECIDE IF THE SOUNDS ARE WHAT THE CARDS ASKED FOR.

Now divide the class into groups of about three or four students and say:

WE WILL WORK IN GROUPS SO WE CAN HELP ONE ANOTHER. SINCE WE HAVE ONLY ONE RECORDER AND ONE CAMERA, ONLY ONE GROUP WILL GO OUT AT A TIME. YOU MAY GO ANYWHERE IN OR AROUND THE SCHOOL AS LONG AS YOU DO NOT DISTURB OTHER CLASSES.

Distribute the sound search cards to each group.

Then say:

READ YOUR SOUND SEARCH CARDS AND THINK ABOUT WHAT KINDS OF SOUNDS YOU CAN BE LISTENING FOR AROUND THE SCHOOL.

Help any groups which have difficulty reading their cards or deciding what kinds of sounds to listen for.

DURING THE TIME ONE GROUP IS OUTSIDE I AM GOING TO PLAY A TAPE OF SOME SOUNDS FOR THE REST OF YOU. WHILE YOU'RE LISTENING TRY TO IMAGINE WHAT ENVIRONMENT THE SOUNDS ARE COMING FROM.

EACH GROUP WILL TRY TO FIND PICTURES FROM MAGAZINES AND CATALOGUES WHICH SHOW THEIR IDEAS OF THE ENVIRONMENTS THE SOUNDS CAME FROM. YOU WILL THEN PASTE THE PICTURES IN ANY ORDER OR DESIGN YOU WISH ON A LARGE PIECE OF PAPER.

## STRATEGIES

RECORDED THEIR SOUNDS WE  
THE CLASS WILL TRY TO  
WHAT THE CARDS ASKED

ps of about three or four

WE CAN HELP ONE  
ONLY ONE RECORDER  
GROUP WILL GO OUT  
WHERE IN OR AROUND  
DO NOT DISTURB

ards to each group.

ARDS AND THINK ABOUT WHAT  
BE LISTENING FOR AROUND

difficulty reading their cards  
nds to listen for.

IS OUTSIDE I AM GOING  
OUNDS FOR THE REST OF  
ING TRY TO IMAGINE  
DS ARE COMING FROM.

IND PICTURES FROM  
WHICH SHOW THEIR  
S THE SOUNDS CAME  
TE THE PICTURES IN  
WISH ON A LARGL

## ANTICIPATED STUDENT BEHAVIORS

Students:

--read cards and think of sounds.

## MATERIALS

## TEACHING STRATEGIES

It will be necessary to have a generous assortment of picture magazines available for the students to cut. The type of pictures available will be a factor to consider in selecting which of the six tapes from Activity 1-7 you choose to play again for your students.

Play the tape you have selected for all students to hear. Distribute scissors, paste, and paper or have them available at some central supply table. Allow the students to begin the assignment.

Gather one group together and review with them the instructions for going out into the school area to record their sounds. Give them two or three sound cards and allow them to begin. When they return (10-15 minutes later), instruct them to continue the magazine work and allow another group to go out and record. Supply each group with two or three different sound search cards. You may wish to use a different cassette for each group. If so, be sure each time that the students do their recording on the blank side. Continue this procedure until all groups have had a chance to record. By the time all groups have recorded, they should also have had sufficient time to finish their magazine assignment.

After all the sounds have been recorded and all assignments completed, select a group to play their sounds to the class. As each sound is played, have other groups try to identify the sound and the corresponding sound search cards and the picture. Involve all students in the activity.



## STRATEGIES

ve a generous assortment of  
e for the students to cut.  
able will be a factor to  
n of the six tapes from  
play again for your students.  
  
ected for all students to hear.  
, and paper or have them  
supply table. Allow the  
gment.

## ANTICIPATED STUDENT BEHAVIORS

ACTIVITY 1-8

67



WORK  
TIME

and review with them the  
into the school area to  
them two or three sound  
egin. When they return (10-15  
them to continue the magazine  
up to go out and record.  
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e sure each time that the  
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groups have had a chance to  
groups have recorded, they should  
time to finish their magazine

been recorded and all assign-  
group to play their sounds to  
is played, have other groups  
and the corresponding sound  
re. Involve all students in

--play back their recorded sounds.

--guess the identity of the sounds and identify the  
corresponding sound search card and picture.

ACTIVITY 1-8

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MATERIALS

TEACHING STRATEGIES

You may wish to have students make a bulletin board display of the pictures and search cards. The recorder could be available for individual students to use during a free period. Be sure to label the pictures and save the tape.

Then ask:

WHAT SOUND DID YOU LIKE? TELL US WHY YOU LIKE IT.

WHAT SOUND DID YOU NOT LIKE? TELL US WHY YOU DIDN'T LIKE IT.

SPECIAL NOTE  
YOUR VALUE

WHAT CAN YOU DO ABOUT THE SOUNDS YOU DID NOT LIKE?

HOW ARE THESE SOUNDS LIKE THE RECORDING OF OUR CLASSROOM? HOW ARE THEY DIFFERENT?

ARE SOUNDS A PART OF OUR ENVIRONMENT?

WHEN COULD SOUNDS IN OUR ENVIRONMENT HURT US?

As an alternative for those who are interested, allow a student or groups of students to take a recorder home and record sounds for others to identify the following day. You should try, however, to involve all students in collecting sounds.



## TEACHING STRATEGIES

Have students make a bulletin board  
pictures and search cards. The recorder  
for individual students to use during  
discussion to label the pictures and save



**HAVE YOU  
INVOLVED  
ALL  
STUDENTS?**

DO YOU LIKE? TELL US WHY YOU

DO YOU NOT LIKE? TELL US WHY YOU

SPECIAL NOTE: DON'T IMPOSE  
YOUR VALUE JUDGMENTS

WHAT DO YOU THINK ABOUT THE SOUNDS YOU DID

DO YOU LIKE SOUNDS LIKE THE RECORDING OF  
HOW ARE THEY DIFFERENT?

WHAT IS A PART OF OUR ENVIRONMENT?

DO SOUNDS IN OUR ENVIRONMENT HURT US?

For those who are interested, allow a  
few students to take a recorder home  
for others to identify the following  
sounds. Try, er, to involve all students

## ANTICIPATED STUDENT BEHAVIORS

Students:

--identify sounds they like and dislike and give  
their reasons why, if they wish.

--decide what sounds could be changed.

--compare the classroom sounds with the school  
sounds.

--conclude that sounds are a part of our  
environment.

--respond, "If they are too loud."



UNIT 1, CASE A  
ACTIVITY 1-8: "Sounds Around Us"

Activity name suggested by class:	Teacher					
	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6
Date taught (month and date, e.g. 11/2)						
Minutes of class time on science each day						
Minutes of preparation each day						
Students absent on each date (Use ID Number)						

Interest of class as expressed by apparent attention to what is happening.

1.	Date taught (month and date, e.g. 11/2)					
2.	Minutes of class time on science each day					
3.	Minutes of preparation each day					
4.	Students absent on each date (Use ID Number)					

Number of students responding with Name students you noted especially (Number)

Interest of class as expressed by apparent attention to what is happening.

Activity name suggested by class:	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6
Date taught (month and date, e.g. 11/2)						
Minutes of class time on science each day						
Minutes of preparation each day						
Students absent on each date (Use ID Number)						

Equipment in kit: ☐ None ☐ Satisfactory ☐ Too fragile ☐ Too complicated ☐ Difficult to useEquipment I got: ☐ None ☐ Easy to get ☐ Hard to get, but okay ☐ Hard to get, add to kit ☐ Unobtainable, add to kit

Materials used:	Worksheet #	Game #	Slides (show slide nos.)	Transparency #	Card(s) #	Tape(s) #	Other #
Worthwhile as is							
Revise slightly							
Revise much							
Worthless: omit							

Maturity level is ☐ just right ☐ too childish ☐ too mature Explain:Vocabulary level is ☐ just right ☐ too easy ☐ too difficult Explain:Were teacher instructions clear enough to follow? ☐ Yes ☐ No - Pages and Problem:Were clues to success and reviews of success helpful? ☐ Yes ☐ No - Why not?Did the activity fulfill the purpose stated by the Guide? ☐ Yes ☐ No - Comment:Were any parts of this activity omitted? ☐ No ☐ Yes - Explain:Your rating of this activity: ☐ Worthwhile ☐ of value--needs the ☐ Worth salvaging--make ☐ Worthless

Materials used:	Worksheet #	Game #	Slides (show slide nos.)	Transparency #	Card(s) #	Tape(s) #	Other #
Worthwhile as is							
Revise slightly							
Revise much							
Worthless: omit							

9. Maturity level is ☐ just right ☐ too childish ☐ too mature Explain:
10. Vocabulary level is ☐ just right ☐ too easy ☐ too difficult Explain:
11. Were teacher instructions clear enough to follow? ☐ Yes ☐ No - Pages and Problem:
12. Were clues to success and reviews of success helpful? ☐ Yes ☐ No - Why not?
13. Did the activity fulfill the purpose stated by the Guide? ☐ Yes ☐ No - Comment:
14. Were any parts of this activity omitted? ☐ No ☐ Yes - Explain:
15. Your rating of this activity:  
☐ Of value--needs the ☐ Worth salvaging--make ☐ Worthless  
--keep as is revision suggested major changes described --drop it
- SPECIFIC CONCERNS ABOUT THIS ACTIVITY:
16. There are always parts of activities that are good and need not be changed.  
What parts of this activity should be retained when the curriculum is revised?  
page(s) \_\_\_\_\_

BSC Evaluation: EMH Feedback Form 1c

17. Were students able to find sounds according to search cards?

☐ Yes ☐ No

List sounds students were unable to find.

18. What difficulty did students have operating the recorder?

19. What difficulty did students have operating the camera?

20. Concern (or questions) about content:

21. Messages for staff (read immediately):

Have you answered each question, attached annotated Guide, your revisions, student work, etc.?

UNIT I, CORE A  
ACTIVITY 1-8: "Sounds Around Us"

Teacher \_\_\_\_\_

REPORT OF WHAT HAPPENED AND SUGGESTIONS FOR REVISION

1. Whenever practical write all over your second copy of the Guide. Tear out the activity and send the annotated Guide in with this form.
2. Make specific suggestions - exactly what you think should appear in the Guide.
3. Tell us what you did. Think of what you needed, what you had to work out for yourself, how you presented something to make it go over.
4. Describe the revisions you said were needed in answering the questions on the other side of this form.
5. As a reminder of things that help in revision, read through the following list and check off things you want to be sure to note this time. (We know you can't tell about everything every time!)

THE LESSON

- ☐ how you organized materials or class.
- ☐ things added (a question, a picture, etc.).
- ☐ equipment, supplies, visual aids.
- ☐ things that went wrong, misunderstandings.
- ☐ what you would do differently or avoid next time.
- ☐ turmoil in the class caused by the activity, or disruptive students, or interruptions, and how you dealt with them.

THE STUDENTS

- ☐ who had problems and what they were.
- ☐ how someone "caught on" (or who never did).
- ☐ who was really "turned off" (or on).
- ☐ reactions of parents, teachers, students.
- ☐ special evidence of learning or applying ideas.



## Me and my Environment

### OBJECTIVE FOCUS FOR THIS ACTIVITY

#### UNIT GOALS:

1. Explore his immediate environment through a variety of sensory experiences and physical contacts.
3. Create a greater interest in, and a more sensitive attitude toward his environment.

#### CORE A OBJECTIVES:

1. Expand the use of his senses.
2. Identify a wide variety of things in his environment.
3. Identify some qualities that make environments alike or different.

### MATERIALS

### TEACHING STRATEGIES

#### Activity 1-9. Sniffing Around

*In the previous activities the students used their senses of sight and hearing to perceive the environment. Now they will use their sense of smell to add another dimension to their understanding of their surroundings. They will also begin to realize that smell can be a warning of something polluted or dangerous.*

FOR THIS ACTIVITY

explore his immediate environment through a variety of sensory experiences and physical contacts.

create a greater interest in, and a more sensitive attitude toward his environment.

OBJECTIVES:

expand the use of his senses.

identify a wide variety of things in his environment.

identify some qualities that make environments alike or different.

TEACHING STRATEGIESSniffing Around

activities the students used their sight and hearing to perceive the environment. Use their sense of smell to add another dimension to their understanding of their surroundings. Begin to realize that smell can be a warning of something polluted or dangerous.

## UNIT I.

## EXPLORING MY ENVIRONMENT



## CORE A.

## SENSING MY ENVIRONMENT

**BSCS**

## ACTIVITY 1-9. SNIFFING AROUND

ANTICIPATED STUDENT BEHAVIORS

At the end of this activity, each student should:

- have experienced a wide range of odors which are both pleasant and unpleasant.
- have indicated judgments of pleasant and unpleasant odors.
- have concluded that odors are an important part of an environment.
- have concluded that smells can warn him of danger.

# ACTIVITY 1-9

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## MATERIALS

- \*Half-pint milk cartons (15 to 20)
- \*Shoebox
- \*Hammer
- \*Nail
- \*Masking tape
- \*Cotton
- \*Baby food or other small jars with lids (15 to 20)
- \*Incense and matches
- \*Soap
- \*Polish remover
- \*Paint
- \*Banana peel
- \*Hair spray
- \*Cooked cabbage
- \*Sauerkraut
- \*Oil of cloves
- \*Oil of wintergreen
- \*Garlic (crushed)
- \*Onion (crushed or chopped)
- \*Household ammonia (on cotton)
- \*Sage
- \*Spoiled food (cottage cheese, meat, milk, rotten potato)
- \*Gasoline (on cotton)
- \*Clorox
- \*Orange peel
- \*Perfume
- \*Rubbing alcohol
- \*Hand lotion
- Worksheet 1-2
- \*35mm Slide projector
- Slide 1-28

\*Not furnished in materials kit

## TEACHING STRATEGIES

### Teacher Preparation:

1. Collect fifteen to twenty half-pint milk cartons
2. Each container should hold a small amount of one of the items suggested in the materials column. Fill the containers before class time. Be sure to dilute with water strong substances such as ammonia and Clorox. Do not combine items. Make substitutions if necessary. Keep a record of what you put in each container and staple it shut.
3. Punch a hole in the top of each milk carton about the size of a large nail. Cover the hole with a piece of masking tape. (See Diagram 1-6.)
4. Incense and matches should be ready to burn (hidden from view). If using oil of cloves, wintergreen, or peppermint, pour the liquid on your desk or on an absorbent object, out of the students' view. It should take only a few moments to saturate the room with one of these odors.

Before class begins have the aroma of incense, clove, peppermint, or wintergreen permeated throughout the room and wait for the students to respond.

Then ask:

WHAT DO YOU THINK THE SMELL IS?

DOES IT SMELL LIKE ANYTHING YOU HAVE EVER SMELLED BEFORE?

## TEACHING STRATEGIES

to twenty half-pint milk cartons.

should hold a small amount of one suggested in the materials column. Burners before class time. Be sure water strong substances such as rox. Do not combine items. ons if necessary. Keep a record in each container and staple it

the top of each milk carton about large nail. Cover the hole with a g tape. (See Diagram 1-6.)

ches should be ready to burn (hidden using oil of cloves, wintergreen, pour the liquid on your desk or on object, out of the students' view. It y a few moments to saturate the room se odors.

ave the aroma of incense, clove, green permeated throughout the room ents to respond.

ASK THE SMELL IS?

KE ANYTHING YOU HAVE EVER

## ANTICIPATED STUDENT BEHAVIORS

Students:

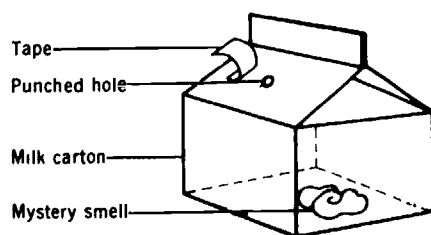
--respond, "What smells?" "Mmm, something smells good," "Ick, something stinks," "What is it?"

--attempt to identify the scent.

--compare the strange smell with a more familiar smell.

## MATERIALS

Diagram 1-6



Worksheet 1-2

Date \_\_\_\_\_ Name \_\_\_\_\_

Smell	Like It	New to Me	Name of Smell
Jer 1	Yes No	Yes No	
Jer 2	Yes No	Yes No	
Jer 3	Yes No	Yes No	
Jer 4	Yes No	Yes No	
Jer 5	Yes No	Yes No	
Jer 6	Yes No	Yes No	
Jer 7	Yes No	Yes No	
Jer 8	Yes No	Yes No	
Jer 9	Yes No	Yes No	
Jer 10	Yes No	Yes No	
Jer 11	Yes No	Yes No	
Jer 12	Yes No	Yes No	
Jer 13	Yes No	Yes No	
Jer 14	Yes No	Yes No	
Jer 15	Yes No	Yes No	

## TEACHING STRATEGIES

WHERE DO YOU THINK IT'S COMING FROM?

WHY DO YOU THINK IT'S COMING FROM THERE?

DO YOU LIKE THE SCENT?

HOW DOES THIS SMELL CHANGE OUR CLASSROOM ENVIRONMENT?

Choose a student who doesn't like the smell to find it and dispose of it.

Then say:

I HAVE SOME MILK CARTONS THAT HAVE SOME INTERESTING SMELLS IN THEM. SOME SMELLS YOU MIGHT LIKE AND SOME YOU MIGHT NOT LIKE. YOU WILL GET A CHANCE TO SMELL WHAT IS IN EACH MILK CARTON.

Distribute a copy of Worksheet 1-2 to each student. Project the slide of the worksheet and say:

THE FIRST COLUMN ON YOUR WORKSHEET SAYS CARTON 1, CARTON 2, CARTON 3, AND SO ON DOWN THE PAPER.

EACH CARTON HAS A NUMBER ON IT. (Hold up a carton and point to the number.)

IF CARTON 3 IS THE FIRST CARTON YOU SMELL, WHERE WILL YOU WRITE ON THE WORKSHEET?

NOW I'M GOING TO UNCOVER THE HOLE IN THE TOP OF CARTON 3 AND TAKE A SNIFF (demonstrate).

IF I LIKE WHAT I SMELL I'M GOING TO CIRCLE THE (YES) ON THE WORKSHEET BESIDE (3).



## TEACHING STRATEGIES

DO YOU THINK IT'S COMING FROM?

DO YOU THINK IT'S COMING FROM THERE?

WHAT IS THE SCENT?

HOW DOES THIS SMELL CHANGE OUR CLASSROOM  
AIR?

Who doesn't like the smell to find it  
it.

WE HAVE MILK CARTONS THAT HAVE SOME  
DIFFERENT SMELLS IN THEM. SOME SMELLS  
YOU MIGHT LIKE AND SOME YOU MIGHT NOT LIKE.  
LET'S GET A CHANCE TO SMELL WHAT IS IN  
EACH CARTON.

Copy of Worksheet 1-2 to each student.  
Read the worksheet and say:

Look at COLUMN ON YOUR WORKSHEET SAYS  
CARTON 2, CARTON 3, AND SO ON  
PAPER.

Who HAS A NUMBER ON IT. (Hold up a  
card point to the number.)

What IS THE FIRST CARTON YOU SMELL,  
What DO YOU WRITE ON THE WORKSHEET?

How DO YOU GOING TO UNCOVER THE HOLE IN THE TOP  
OF CARTON 3 AND TAKE A SNIFF (demonstrate).

What DO I SMELL I'M GOING TO CIRCLE  
ON THE WORKSHEET BL3SIDE (3).

## ANTICIPATED STUDENT BEHAVIORS

ACTIVITY 1-9

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Students:

--attempt to point out the source of the scent.

--respond, "It smells stronger over there."

--respond, "Yes," "No."

--respond, "It stinks up our room," "It changes  
the air."

--dispose of the (incense).

--respond, "Next to the 3," "Where it says carton  
3."

ACTIVITY 1-9

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### MATERIALS

### TEACHING STRATEGIES

Point out the "Like It" column and demonstrate by circling "yes" on the the projected worksheet.

WHAT WILL I DO IF I DON'T LIKE IT?

NEXT I'M GOING TO DECIDE IF THE SMELL IS  
NEW TO ME. IF IT IS, I'LL CIRCLE "YES".

Demonstrate by circling "yes" on the projected worksheet.

IF I HAVE SMELLED THE SMELL BEFORE, IS IT NEW  
TO ME?

THEN WHAT WILL I DO?

Now tell the students that the last column (point to the blank space) is for them to write down what they think is in the carton. Before beginning make sure all students understand how to use the worksheet. Have the cartons placed in different positions in the classroom so that students can work independently on identifying the smells. Be sure they have a place to write to fill in their worksheets. Instruct each student to stand by a carton. Tell him he will sniff the carton in front of him first. When you give the signal to move (1 to 2 minutes) each student will move to the next carton on his right. Remind the students always to match the number on the carton with the number on their worksheets before they do any marking.

HAVE A SNI

When the students have finished smelling the contents of each carton, project the slide of the worksheet on the chalkboard again.

Ask:

## TEACHING STRATEGIES

it" column and demonstrate by circling  
ected worksheet.

IF I DON'T LIKE IT?

TO DECIDE IF THE SMELL IS  
IT IS, I'LL CIRCLE "YES".

ing "yes" on the projected worksheet.

ED THE SMELL BEFORE, IS IT NEW

DO?

e that the last column (point to the  
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efore beginning make sure all students  
e the worksheet. Have the cartons  
ositions in the classroom so that  
ependently on identifying the smells.  
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f the carton in front of him first.  
enal to move (1 to 2 minutes)  
ve to the next carton on his right.  
always to match the number on the  
er on their worksheets before they do

HAVE A SNIFFING GOOD TIME

ve finished smelling the contents of  
the slide of the worksheet on the

## ANTICIPATED STUDENT BEHAVIORS

Students:

--respond, "Circle 'No'."

--respond, "No."

--respond, "Circle 'No'."

## MATERIALS

## TEACHING STRATEGIES

HOW MANY OF YOU LIKED THE SMELL IN CARTON 1?

Write the number of students who raised their hands in the "Like It" column above the "Yes" on the projected worksheet.

HOW MANY OF YOU DID NOT LIKE THE SMELL IN CARTON 1?

Write the number of students who raised their hands in the "Like It" column above the "No" on the projected worksheet.

Bring out in the discussion that people do not necessarily react to smells in the same way.

Say:

IF THE SMELL IN CARTON 1 WAS NEW TO YOU, RAISE YOUR HAND.

Write the number of students to whom the smell was new in the appropriate column above the "Yes" on the projected worksheet.

Identify the contents of each container as the students check their papers to see how many smells they correctly identified.

Then say:

WHICH OF THESE SMELLS WOULD MAKE YOU SICK IF YOU WERE TO SMELL IT FOR A LONG PERIOD OF TIME?

## TEACHING STRATEGIES

LIKED THE SMELL IN CARTON 1?

Students who raised their hands in the  
the "Yes" on the projected

DO NOT LIKE THE SMELL IN

Students who raised their hands in the  
the "No" on the projected worksheet.

Lesson that people do not necessarily  
same way.

CARTON 1 WAS NEW TO YOU, RAISE

Students to whom the smell was new  
above the "Yes" on the projected

of each container as the students  
see how many smells they correctly

SMELLS WOULD MAKE YOU SICK IF  
IT FOR A LONG PERIOD OF TIME?

## ANTICIPATED STUDENT BEHAVIORS

ACTIVITY 1-9

73

Students:

--look at their worksheets and raise their hands  
if they circled "Yes."

--look at their worksheets and raise their hands if  
they circled "No."

--look at worksheets and raise their hands if they  
circled "Yes."

--respond, "Ammonia," "Clorox," "Spoiled food,"  
"Gasoline," "Polish remover," or refer to the  
items by the numbers of the jars they were in.

ACTIVITY 1-9

74

MATERIALS

- \*3 to 4 Empty containers for each student (plastic baggies are fine)
- \*Sage or oregano

\*Not furnished in materials kit

TEACHING STRATEGIES

CAN YOU THINK OF MORE SMELLS THAT COULD MAKE YOU VERY SICK OR TELL YOU OF DANGER?

WHY ARE SMELLS AN IMPORTANT PART OF OUR ENVIRONMENT?

You may also mention the value of having things in our environment that do not smell.

Sniffing Around Out Of Doors. (Optional)

TODAY WE WILL GO SNIFFING AROUND OUT OF DOORS TO SEE WHAT KINDS OF SMELLS WE CAN FIND -- AND TO SEE IF THERE ARE SOME THAT WE CAN COLLECT AND BRING BACK.

WHAT ARE SOME GOOD THINGS WE MIGHT SMELL?

WHAT ARE SOME BAD THINGS THAT WE MIGHT SMELL?

WHAT ARE SOME SMELLS WE CAN BRING BACK TO THE ROOM? THINK BACK TO THE KINDS OF THINGS WE HAD IN THE CONTAINERS YESTERDAY.

Make a list on the chalkboard of suggested smells to bring back. If plants are not included in the list show the pupils sage or oregano. Suggest that plants around the playground may have some interesting odors and that they might experiment by crushing and smelling some of the leaves they find outside. Encourage students to use their imaginations in discovering ways to bring smells from outdoors inside. Remind them not to break the shrubbery for this assignment.

## TEACHING STRATEGIES

...MORE SMELLS THAT COULD MAKE  
...TELL YOU OF DANGER?

...AN IMPORTANT PART OF OUR

...the value of having things in our  
...not smell.

...of Doors. (Optional)

...O SNIFFING AROUND OUT OF DOORS  
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...OOD THINGS WE MIGHT SMELL?

...AD THINGS THAT WE MIGHT SMELL?

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...side. Encourage students to use  
...n discovering ways to bring smells  
...Remind them not to break the  
...ssignment.

## ANTICIPATED STUDENT BEHAVIORS

Students:

--respond, "Smoke," "Gas leaks," "Car exhaust,"  
etc.

--conclude that smells are an important part of  
our environment because they warn us of danger,  
or give clues to where we are, and because they  
are pleasant and add to our enjoyment of life.

--respond, "Flowers," "Air," "Grass."

--respond, "The air," "Air pollution," etc.

--respond, "Wood," "Plants," "Garbage," etc.

## MATERIALS

## TEACHING STRATEGIES

COLLECTING TIME

Ask:

HOW CAN SMELLS HELP YOU LEARN MORE ABOUT YOUR ENVIRONMENT?



## TEACHING STRATEGIES

## ANTICIPATED STUDENT BEHAVIORS

ACTIVITY 1-9

75

Students:

### COLLECTING TIME OUTDOORS

HELP YOU LEARN MORE ABOUT YOUR

--respond, "Smells tell us if the air is clean or dirty," "If garbage is around," "It helps us identify plants and trees."

--conclude that smells help us learn more about the environment.

UNIT 1, CORE A  
ACTIVITY 1-9: "Sniffing Around"

Teacher

Activity name suggested by class:

RSCS USE:	Post	Tally	Rev		
Day 1	Day 2	Day 3	Day 4	Day 5	Day 6

1.	Date taught (month and date, e.g. 11/2)						
2.	Minutes of class time on science each day						
3.	Minutes of preparation each day						
4.	Students absent on each date (Use ID Number)						

5. Interest of class as expressed by apparent attention to what is happening.Number of students responding with: Name students you noted especially:  
(Number)

HIGH INTEREST	_____
MODERATE INTEREST	_____
INDIFFERENCE	_____
MODERATE RESISTANCE	_____
STRONG DISLIKE	_____
HARD TO RATE	_____

6. Equipment in kit: ☐ None ☐ Satisfactory ☐ Too fragile ☐ Too complicated ☐ Difficult to use7. Equipment I got: ☐ None ☐ Easy to get ☐ Hard to get, but okay ☐ Hard to get, add to kit ☐ Unobtainable, add to kit

8. Materials used:	Worksheet #	Game #	Slides (show slide nos.)	Transparency #	Card(s) #	Tape(s) #	Other #
Worthwhile as is							
Revise slightly							
Revise much							
Worthless: omit							

9. Maturity level is ☐ just right ☐ too childish ☐ too mature Explain:10. Vocabulary level is ☐ just right ☐ too easy ☐ too difficult Explain:11. Were teacher instructions clear enough to follow? ☐ Yes ☐ No - Pages and Problem:12. Were clues to success and reviews of success helpful? ☐ Yes ☐ No - Why not?13. Did the activity fulfill the purpose stated by the Guide? ☐ Yes ☐ No - Comment:14. Were any parts of this activity omitted? ☐ No ☐ Yes - Explain:

15. Your rating of this activity:

☐ Worthwhile ☐ Of value--needs the ☐ Worth salvaging--make ☐ Worthless

[illegible]

9. Maturity level is ☐ just right ☐ too childish ☐ too mature Explain:
10. Vocabulary level is ☐ just right ☐ too easy ☐ too difficult Explain:
11. Were teacher instructions clear enough to follow? ☐ Yes ☐ No - Pages and Problem:
12. Were clues to success and reviews of success helpful? ☐ Yes ☐ No - Why not?
13. Did the activity fulfill the purpose stated by the Guide? ☐ Yes ☐ No - Comment:
14. Were any parts of this activity omitted? ☐ No ☐ Yes - Explain:
15. Your rating of this activity:  
☐ Worthwhile ☐ Of value--needs the ☐ Worth salvaging--make ☐ Worthless  
--keep as is revision suggested major changes described --drop it

**SPECIFIC CONCERNS ABOUT THIS ACTIVITY:**

16. There are always parts of activities that are good and need not be changed. What parts of this activity should be retained when the curriculum is revised?
- page(s) \_\_\_\_\_ :

17. Was recording on Worksheet 1-2 too difficult for any of your students?

- ☐ No      ☐ Yes: Who and why?  
(Send in Worksheet 1-2 showing difficulty.)

18. Did many students say that some smells were new to them?  
☐ No ☐ Yes: Which smells?

19. Did you do the optional activity (Sniffing Around Out Of Doors)?

Was it worth the time spent in terms of reinforcing the concept of odors as an important part of the environment?

☐ No ☐ Yes

20. Concern (or questions) about content:

21. Messages for staff (read immediately):

Have you answered each question, attached annotated Guide, your revisions, student work, etc.?

UNIT I, CORE A  
ACTIVITY 1-9: "Sniffing Around"

Teacher \_\_\_\_\_

REPORT OF WHAT HAPPENED AND SUGGESTIONS FOR REVISION

1. Whenever practical write all over your second copy of the Guide. Tear out the activity and send the annotated Guide in with this form.
2. Make specific suggestions - exactly what you think should appear in the Guide.
3. Tell us what you did. Think of what you needed, what you had to work out for yourself, how you presented something to make it go over.
4. Describe the revisions you said were needed in answering the questions on the other side of this form.
5. As a reminder of things that help in revision, read through the following list and check off things you want to be sure to note this time. (We know you can't tell about everything every time!)

THE LESSON

- ☐ how you organized materials or class.
- ☐ things added (a question, a picture, etc.).
- ☐ equipment, supplies, visual aids.
- ☐ things that went wrong, misunderstandings.
- ☐ what you would do differently or avoid next time.
- ☐ turmoil in the class caused by the activity, or disruptive students, or interruptions, and how you dealt with them.

THE STUDENTS

- ☐ who had problems and what they were.
- ☐ how someone "caught on" (or who never did).
- ☐ who was really "turned off" (or on).
- ☐ reactions of parents, teachers, students.
- ☐ special evidence of learning or applying ideas.



## Me and my Environment

### MATERIALS

Graphite  
\*Sawdust  
\*18 Styrofoam cups or jars  
\*Cornstarch (3 or 4 boxes)  
\*Water  
\*Food coloring  
\*Aluminum pie plates (1 per student)  
\*1 Container large enough to mix cornstarch with water  
\*1 Tablespoon to mix starch  
\*Not furnished in materials kit

### OBJECTIVE FOCUS FOR THIS ACTIVITY

#### UNIT GOALS:

1. Explore his immediate environment through a variety of sensory experiences and physical contacts.
3. Create a greater interest in, and a more sensitive attitude toward, his environment

#### CORE A OBJECTIVES:

1. Expand the use of his senses.
2. Identify a wide variety of things in his environment.

### TEACHING STRATEGIES

#### Activity 1-10. A Strange Feeling

*The following activity provides the student with still another dimension in perceiving his environment. He will encounter sensory experiences that involve both sight and touch, and he will realize they don't always tell us the same things. He will have an opportunity to explore some unusual properties not encountered in ordinary materials.*

#### Teacher Preparation:

1. Collect eighteen styrofoam cups. Fill nine of the cups with a small portion of sawdust, the other nine cups with a small portion of graphite. (Sawdust may be obtained from the school wood shop or a local lumber yard.)
2. Mix the box of cornstarch with enough water to form the consistency of pudding (1 1/2 cups of

THIS ACTIVITY

re his immediate environment through  
 a variety of sensory experiences and  
 cal contacts.

o a greater interest in, and a more  
 tive attitude toward, his environment.

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TEACHING STRATEGIESStrange Feeling

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UNIT I.

EXPLORING MY ENVIRONMENT



CORE A.

SENSING MY ENVIRONMENT

**BSCS**

ACTIVITY 1-10. A STRANGE FEELING

ANTICIPATED STUDENT BEHAVIORS

At the end of this activity, each student should:

- have experienced contrasting qualities in the same material.
- have experimented with a strange material.
- have experienced that things don't always feel the way one might expect.
- have concluded that some things we touch can help us and some things can hurt us.

ACTIVITY 1-10

78

MATERIALS

TEACHING STRATEGIES

water per box). Add food coloring if you like. Do this prior to class time and play with it yourself to find out what it's like.

Begin by saying:

CAN ANYBODY REMEMBER WHAT THE WORD "ENVIRONMENT" MEANS?

WHAT SENSES HAVE WE USED SO FAR TO FIND OUT MORE ABOUT OUR ENVIRONMENT?

WHAT SENSE HAVEN'T WE USED YET TO EXPLORE OUR ENVIRONMENT?

WOULD IT BE VERY SAFE TO TASTE DIFFERENT THINGS IN OUR ENVIRONMENT?

WHY NOT?

TASTING IS A LITTLE RISKY. LET'S EXPLORE WITH TOUCH.

FEEL YOUR DESK. HOW DOES IT FEEL?

WHAT IS IT MADE OF?

DOES WOOD (METAL) ALWAYS FEEL HARD?

Now distribute the cups of sawdust among the students. Have them take turns feeling the sawdust.

Ask:

## ING STRATEGIES

and food coloring if you like.  
less time and play with it  
what it's like.

WHAT THE WORD "ENVIRONMENT"

USED SO FAR TO FIND OUT  
ENVIRONMENT?

WE USED YET TO EXPLORE OUR

FE TO TASTE DIFFERENT THINGS

RISKY. LET'S EXPLORE WITH

W DOES IT FEEL?

ALWAYS FEEL HARD?

of sawdust among the students.  
ling the sawdust.

## ANTICIPATED STUDENT BEHAVIORS

Students:

--recall the definition given earlier and respond,  
"Everything around us."

--recall previous activities and respond, "Seeing,"  
"Hearing," "Smelling."

--recall the five senses and respond, "Touch,"  
"Taste."

--respond, "No."

--respond, "They might be poison," "They'd be rotten,"  
"Everything isn't good for us," etc.

--respond, "Hard."

--respond, "Wood," "Metal."

--respond, "Yeah," "I think so."



## MATERIALS

## TEACHING STRATEGIES

DOES ANYONE KNOW WHAT THIS IS?

If they do not identify the sawdust, say:

HERE IS SOME SAWDUST. WHAT IS SAWDUST?

HOW DOES IT FEEL?

DOES IT LOOK LIKE THE WOOD YOUR DESK (or other suitable object) IS MADE OF? WHY?

LOOK AT YOUR PENCIL. FEEL THE LEAD. HOW DOES IT FEEL?

DOES LEAD ALWAYS FEEL HARD?

Distribute the cups of graphite among the students. Have them take turns feeling the graphite. Caution them to be careful. While the graphite won't hurt anybody, it can be messy. Have wet paper towels handy for cleaning up.

DOES ANYONE KNOW WHAT THIS IS?

If students fail to identify the graphite, say:

THIS IS CALLED GRAPHITE. IT IS THE SAME STUFF YOUR PENCIL LEAD IS MADE FROM EXCEPT THAT IT IS IN POWDERED FORM.

HOW DOES IT FEEL?

WHY DOES THIS FEEL SOFTER THAN THE PENCIL LEAD?

Now give each student an aluminum pie plate containing some of the cornstarch mixture.

## TEACHING STRATEGIES

HOW WHAT THIS IS?

Identify the sawdust, say:

SAWDUST. WHAT IS SAWDUST?

FEEL?

LIKE THE WOOD YOUR DESK (or other  
it) IS MADE OF? WHY?

PENCIL. FEEL THE LEAD. HOW

DOES IT FEEL HARD?

Place pieces of graphite among the students. Have  
them feel the graphite. Caution them to be  
careful because the graphite won't hurt anybody, it can be  
messy. Have paper towels handy for cleaning up.

HOW WHAT THIS IS?

Identify the graphite, say:

GRAPHITE. IT IS THE SAME STUFF  
PENCIL LEAD IS MADE FROM EXCEPT THAT IT  
IS IN A DIFFERENT FORM.

FEEL?

DOES IT FEEL SOFTER THAN THE PENCIL LEAD?

Present an aluminum pie plate containing  
a mixture of sawdust and graphite.

## ANTICIPATED STUDENT BEHAVIORS

ACTIVITY 1-10

79

Students:

--identify the sawdust.

--respond, "Leftovers from wood," "Shavings."

--respond, "Soft."

--respond, "No," "Because it's all chopped up,"  
"It's all sawed," "It's broken apart."

--respond, "Hard."

--respond, "Yes," "No," "I don't know."

--respond, "Dirt," "Black stuff," "I don't know."

--respond, "Soft."

--respond, "It is broken up into smaller pieces."

ACTIVITY 1-10

80

## MATERIALS

## TEACHING STRATEGIES

Then say:

YOU HAVE FELT SOMETHING HARD AND SOMETHING  
SOFT. LOOK AT THIS AND WITHOUT TOUCHING  
IT, TELL US HOW YOU THINK IT FEELS.

When all have voiced their opinions, have the students  
poke their fingers into it. This mixture will stick to  
their fingers and crumble easily but can be swept up  
when dry and will wash out of clothes.

Ask:

HOW DOES IT FEEL?

TRY TO BREAK IT.

FIND A PIECE THAT'S WET.

FIND A PIECE THAT'S DRY.

PICK UP A HANDFUL AND HOLD IT. WHAT HAPPENS?

IS IT HARD OR SOFT?

IS IT WET OR IS IT DRY?

PLAY

FOOL A

HAVE

## CHING STRATEGIES

SOMETHING HARD AND SOMETHING  
THIS AND WITHOUT TOUCHING  
YOU THINK IT FEELS.

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PLAY TIME

FOOL AROUND

HAVE FUN

EL?

S.

HAT'S WET.

HAT'S DRY.

FUL AND HOLD IT. WHAT HAPPENS?

SOFT?

IT DRY?

## ANTICIPATED STUDENT BEHAVIORS

Students:

--respond, "Hard," "Soft," "Gooey," "Stiff,"  
"Watery," "Sticky."

--respond, "Hard."

--respond, "Wow, it drips back into the pan."

--respond, "Both."

--respond, "Both."

## MATERIALS

## TEACHING STRATEGIES

Allow the students sufficient time to experiment with the cornstarch. Save it. The students can use it another time if more water is added.

Conclude by asking:

DO THINGS ALWAYS FEEL THE WAY YOU EXPECT  
THEM TO JUST BY LOOKING AT THEM?

HOW CAN FEELING OR TOUCH HELP US?

WHEN COULD TOUCHING THINGS HURT US?

HOW CAN TOUCH HELP US FIND OUT MORE ABOUT  
OUR ENVIRONMENT?

## TEACHING STRATEGIES

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UCHING THINGS HURT US?

HELP US FIND OUT MORE ABOUT  
NT?

## ANTICIPATED STUDENT BEHAVIORS

ACTIVITY 1-10

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Students:

--respond, "No," "When you feel them they seem  
different."

--respond, "To find out what things are really  
like," "To see what is hot or cold," "To see  
if we can pick things up," etc.

--respond, "If they're hot we could get burned,"  
"We could cut ourselves," "Get stained," etc.

--respond, "Helps us to find out what things are  
like," "Helps us to find out where we're going  
and where we are," etc.

## ACTIVITY 1-10: "A Strange Feeling"

Activity name suggested by class: \_\_\_\_\_

Teacher

BSCS USE:	Post	Tally	Rev
Day 1	Day 2	Day 3	Day 4
Day 5	Day 6		

1. Date taught (month and date, e.g. 11/2)						
2. Minutes of class time on science each day						
3. Minutes of preparation each day						
4. Students absent on each date (Use ID Number)						

5. Interest of class as expressed by apparent attention to what is happening.

Number of students responding with: Name students you noted especially: \_\_\_\_\_

HIGH INTEREST	↑
MODERATE INTEREST	
INDIFFERENCE	
MODERATE RESISTANCE	
STRONG DISLIKE	↓
HARD TO RATE	

6. Equipment in kit: ☐ None ☐ Satisfactory ☐ Too fragile ☐ Too complicated ☐ Difficult to use
7. Equipment I got: ☐ None ☐ Easy to get ☐ Hard to get, but okay ☐ Hard to get, add to kit ☐ Unobtainable, add to kit

Materials used:	Worksheet #	Game #	Slides (show slide nos.)	Transparency #	Card(s) #	Tape(s) #	Other #
Worthwhile as is							
Revise slightly							
Revise much							
Worthless: omit							

9. Maturity level is ☐ just right ☐ too childish ☐ too mature Explain:
10. Vocabulary level is ☐ just right ☐ too easy ☐ too difficult Explain:
11. Were teacher instructions clear enough to follow? ☐ Yes ☐ No - Pages and Problem:
12. Were clues to success and reviews of success helpful? ☐ Yes ☐ No - Why not?
13. Did the activity fulfill the purpose stated by the Guide? ☐ Yes ☐ No - Comment:
14. Were any parts of this activity omitted? ☐ No ☐ Yes - Explain:
15. Your rating of this activity:

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☐ Worthwhile ☐ Of value--needs the ☐ Worth salvaging--make ☐ Worthless  
--keep as is revision suggested major changes described --drop it--  
-----
- SPECIFIC CONCERNS ABOUT THIS ACTIVITY:
16. There are always parts of activities that are good and need not be changed.  
What parts of this activity should be retained when the curriculum is revised?  
Page(s) \_\_\_\_\_:

17. Were any students unwilling to play in the cornstarch mixture?  
☐ No ☐ Yes: Who and why?

18. Concern (or questions) about content:

19. Messages for staff (read immediately):

BSCG Evaluation: EMH Feedback Form 1c

Have you answered each question, attached annotated Guide, your revisions, student work, etc.?



UNIT 1, COPE A  
ACTIVITY 1-10: "A Strange Feeling"

Teacher \_\_\_\_\_

REPORT OF WHAT HAPPENED AND SUGGESTION FOR REVISION

1. Whenever practical write all over your second copy of the Guide. Tear out the activity and send the unnotated Guide in with this form.
2. Make specific suggestions - exactly what you think should appear in the Guide.
3. Tell us what you did. Think of what you needed, what you had to work out for yourself, how you presented something to make it go over.
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5. As a reminder of things that help in revision, read through the following list and check off things you want to be sure to note this time. (We know you can't tell about everything every time!)

THE LESSON

- ☐ how you organized materials or class.
- ☐ things added (a question, a picture, etc.).
- ☐ equipment, supplies, visual aids.
- ☐ things that went wrong, misunderstandings.
- ☐ what you would do differently or avoid next time.
- ☐ turmoil in the class caused by the activity, or disruptive students, or interruptions, and how you dealt with them.

THE STUDENTS

- ☐ who had problems and what they were.
- ☐ how someone "caught on" (or who never did).
- ☐ who was really "turned off" (or on).
- ☐ reactions of parents, teachers, students.
- ☐ special evidence of learning or applying ideas.



## Me and my Environment

### OBJECTIVE FOCUS FOR THIS ACTIVITY

#### UNIT GOALS:

1. Explore his immediate environment through a variety of sensory experiences and physical contacts.

#### CORE A OBJECTIVES:

1. Expand the use of his senses.
2. Identify a wide variety of things in his environment.
3. Identify some qualities that make environments alike or different.

### MATERIALS

\*35mm Slide projector  
Worksheet 1-3  
Slides 1-29 and 1-30

\*Not furnished in materials kit

### TEACHING STRATEGIES

#### Activity 1-11. Putting Yourself In The Picture -- A Review Of Success

*The purpose of this exercise is to review the ways the student has used his senses to explore his environment and to determine how well he has learned to use them. The student will be asked to look at a picture, pretend he is in the environment pictured, and try to think of what senses he would use to learn about that particular environment.*

Distribute a copy of Worksheet 1-3 to each student and say:

FOR THE PAST FEW ACTIVITIES WE HAVE BEEN USING OUR SENSES TO FIND OUT MORE ABOUT OUR ENVIRONMENT. TODAY WE'RE GOING TO REVIEW IDEAS ABOUT HOW WE WOULD USE OUR SENSES IN DIFFERENT SITUATIONS.

# THIS ACTIVITY

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ty of sensory experiences and  
al contacts.

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fy a wide variety of things in his  
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## ACHING STRATEGIES

### ing Yourself In The Picture -- A ew Of Success

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UNIT I.

EXPLORING MY ENVIRONMENT



CORE A.

SENSING MY ENVIRONMENT

BSCS

ACTIVITY 1-11. PUTTING YOURSELF IN THE  
PICTURE -- A REVIEW OF  
SUCCESS

## ANTICIPATED STUDENT BEHAVIORS

At the end of this activity, each student should:

- have discussed Worksheet 1-3.
- have discussed and defended his choices marked on the worksheet.

ACTIVITY 1-11

84

MATERIALS

Worksheet 1-3

Slide 1-29



Main sense \_\_\_\_\_

Others used a lot \_\_\_\_\_



Main sense \_\_\_\_\_

Others used a lot \_\_\_\_\_

TEACHING STRATEGIES

WHAT ARE OUR SENSES?

Write the words "seeing, hearing, touching, tasting, smelling" on the board.

Project Slide 1-29 on the chalkboard. Say.

LOOK AT PICTURE 1. PRETEND YOU ARE AT THIS PLACE. (Point to Picture 1.) WHAT PLACE DOES IT SHOW?

NOW WRITE ON YOUR WORKSHEET THE MAIN SENSE YOU WOULD PROBABLY USE THE MOST AT THIS PLACE. (Point to "Main Sense" line on chalkboard.)

Then say:

IF YOU CAN THINK OF OTHER SENSES YOU WOULD USE A LOT AT THIS PLACE WRITE THEM ON YOUR WORKSHEET. (Point to "Others used A Lot" line on the chalkboard.)

GIVE ST  
TIME  
TO  
THINK

ALLOW TIM

GIVE ST  
TIME  
TO  
THINK

## TEACHING STRATEGIES

RE OUR SENSES?

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de 1-29 on the chalkboard. Say:

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(Point to Picture 1.) WHAT PLACE  
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(Point to "Main Sense" line on  
board.)

**GIVE STUDENTS  
TIME  
TO  
THINK**

ALLOW TIME TO WRITE

CAN THINK OF OTHER SENSES YOU WOULD  
LOT AT THIS PLACE WRITE THEM ON YOUR  
HEET. (Point to "Others Used A Lot"  
n the chalkboard.)

**GIVE STUDENTS  
TIME  
TO  
THINK**

## ANTICIPATED STUDENT BEHAVIORS

Students:

--name eyes or seeing; ears or hearing; skin,  
touch or feeling; tongue or tasting; nose or  
smelling.

--respond, "A restaurant," "A place to eat."

--write a sense in the line provided on the  
worksheet.

## MATERIALS

Slide 1-30



## TEACHING STRATEGIES

ALLOW TIME

Now call on many students to share their answers. Accept all answers, but each time ask each student to explain why he selected the sense given. Let students come to the board to point to or mark things they would notice. As each sense is named have it written on the appropriate line on the chalkboard.

ACCE  
ANS

Say as you discuss Picture 1:

IF YOU CHANGE YOUR MIND ABOUT WHAT YOU THINK IS THE MAIN SENSE, WRITE YOUR NEW IDEA NEXT TO THE ONE YOU ORIGINALLY WROTE AND CROSS OUT YOUR OLD IDEA.

Continue to involve many students and have them give reasons for their answers. If students do not have the background for some of the scenes, tell what you would notice and vividly describe various features of the scene.

Repeat this procedure for scenes 2, 3, and 4.

After discussing all the pictures, ask:

DOES EVERY PERSON NOTICE THE SAME THING IN A PICTURE?

HOW MANY SENSES DO WE USUALLY USE IN A SITUATION?

## TEACHING STRATEGIES

## ANTICIPATED STUDENT BEHAVIORS

ACTIVITY 1-11

85

Students:

ALLOW TIME TO WRITE

Ask students to share their answers. Accept  
at each time ask each student to explain why  
sense given. Let students come to the  
board or mark things they would notice. As  
needed have it written on the appropriate  
blackboard.

**ACCEPT ALL  
ANSWERS**

Discuss Picture 1:

CHANGE YOUR MIND ABOUT WHAT YOU THINK  
IN SENSE, WRITE YOUR NEW IDEA NEXT  
TO YOUR ORIGINALLY WROTE AND CROSS OUT  
YOUR IDEA.

Involve many students and have them give  
their answers. If students do not have  
answers for some of the scenes, tell what  
you see and vividly describe various features

Procedure for scenes 2, 3, and 4.

For all the pictures, ask:

DOES ANY PERSON NOTICE THE SAME THING IN

SCENES DO WE USUALLY USE IN A SITUATION?

--respond, "No," "Not always."

--respond, "More than one," "Most of them."

ACTIVITY 1-11

86

**MATERIALS**

**TEACHING STRATEGIES**

LOOK CAREFULLY AT YOUR WORKSHEETS. DID WE USE  
SOME SENSES MORE THAN OTHERS?

GIV  
TIM  
TO  
TH

At the end of this activity collect the students worksheets  
and send them to BSCS with your feedback form for this  
activity.



## TEACHING STRATEGIES

AT YOUR WORKSHEETS. DID WE USE  
MORE THAN OTHERS?

**GIVE STUDENTS  
TIME  
TO  
THINK**



activity collect the students worksheets  
SCS with your feedback form for this

## ANTICIPATED STUDENT BEHAVIORS

Students:

--look at their worksheets and conclude that  
seeing, hearing, and smelling are used more  
than touching and tasting.

UNIT 1, CORE A  
ACTIVITY 1-11: "Putting Yourself In The Picture"

Activity name suggested by class: \_\_\_\_\_

Teacher \_\_\_\_\_

BSCS USE: Post \_\_\_\_\_ Tally \_\_\_\_\_ Rev \_\_\_\_\_

Day 1 Day 2 Day 3 Day 4 Day 5 Day 6

1.	Date taught (month and date, e.g. 11/2)						
2.	Minutes of class time on science each day						
3.	Minutes of preparation each day						
4.	Students absent on each date (Use ID Number)						

5. Interest of class as expressed by apparent attention to what is happening.

Number of students responding with: \_\_\_\_\_ Name students you noted especially: \_\_\_\_\_  
(Number)

HIGH INTEREST	_____
MODERATE INTEREST	_____
INDIFFERENCE	_____
MODERATE RESISTANCE	_____
STRONG DISLIKE	_____
HARD TO RATE	_____

6. Equipment in kit: ☐ None ☐ Satisfactory ☐ Too fragile ☐ Too complicated ☐ Difficult to use

7. Equipment I got: ☐ None ☐ Easy ☐ Hard to get, ☐ Hard to get, ☐ Unobtainable, ☐ to get but okay ☐ add to kit ☐ add to kit

8. Materials used:	Worksheet #1 #1 #1	Game #	Slides (show slide nos.)	Transparency #1 #1 #1	Card(s) #	Tape(s) #	Other #
Worthwhile as is							
Revise slightly							
Revise much							
Worthless: omit							

9. Maturity level is ☐ just right ☐ too childish ☐ too mature Explain:

10. Vocabulary level is ☐ just right ☐ too easy ☐ too difficult Explain:

11. Were teacher instructions clear enough to follow? ☐ Yes ☐ No - Pages and Problem:

12. Were clues to success and reviews of success helpful? ☐ Yes ☐ No - Why not?

13. Did the activity fulfill the purpose stated by the Guide? ☐ Yes ☐ No - Comment:

14. Were any parts of this activity omitted? ☐ No ☐ Yes - Explain:

15. Your rating of this activity:

Materials used:		Worksheet		Game		Slides (show slide nos.)		Transparency		Card(s)		Tape(s)		Other	
		#	#	#	#	#	#	#	#	#	#	#	#	#	#
Worthwhile as is															
Revise slightly															
Revise much															
Worthless: omit															

9. Maturity level is ☐ just right ☐ too childish ☐ too mature Explain:
10. Vocabulary level is ☐ just right ☐ too easy ☐ too difficult Explain:
11. Were teacher instructions clear enough to follow? ☐ Yes ☐ No - Pages and Problems:
12. Were clues to success and reviews of success helpful? ☐ Yes ☐ No - Why not?
13. Did the activity fulfill the purpose stated by the Guide? ☐ Yes ☐ No - Comment:
14. Were any parts of this activity omitted? ☐ No ☐ Yes - Explain:
15. Your rating of this activity:  
☐ Worthwhile ☐ Of value--needs the ☐ Worth salvaging--make ☐ Worthless  
--keep as is revision suggested major changes described --drop it  
-----  
SPECIFIC CONCERNS ABOUT THIS ACTIVITY:

16. There are always parts of activities that are good and need not be changed.  
What parts of this activity should be retained when the curriculum is revised?  
page(s) \_\_\_\_\_:

17. Were students able to defend their choices marked on Worksheet 1-3?  
☐ Yes ☐ No: Comment.

18. Did most students name the same things as what they would notice in each picture?  
☐ Yes ☐ No: Comment.

19. On a copy of Worksheet 1-3, note any problems or comments regarding artwork, or what should be added, or what could replace a picture. Send in with student worksheets.

20. Concern (or questions) about content:

21. Messages for staff (read immediately):

BCCC Evaluation: EMH Feedback Form 1c

Have you answered each question, attached annotated Guide, your revisions, student work, etc.?

UNIT 1, C RE A  
ACTIVITY 1-11: "Putting Yourself In The Picture"

Teacher \_\_\_\_\_

REPORT OF WHAT HAPPENED AND SUGGESTIONS FOR REVISION

1. Whenever practical write all over your second copy of the Guide. Tear out the activity and send the annotated Guide in with this form.
2. Make specific suggestions - exactly what you think should appear in the Guide.
3. Tell us what you did. Think of what you needed, what you had to work out for yourself, how you presented something to make it go over.
4. Describe the revisions you said were needed in answering the questions on the other side of this form.
5. As a reminder of things that help in revision, read through the following list and check off things you want to be sure to note this time. (We know you can't tell about everything every time!)

THE LESSON

- ☐ how you organized materials or class.
- ☐ things added (a question, a picture, etc.).
- ☐ equipment, supplies, visual aids.
- ☐ things that went wrong, misunderstandings.
- ☐ what you would do differently
  - Or avoid next time.
- ☐ turmoil in the class caused by the activity, or disruptive students, or interruptions, and how you dealt with them.

THE STUDENTS

- ☐ who had problems and what they were.
- ☐ how someone "caught on" (or who never did).
- ☐ who was really "turned off" (or on).
- ☐ reactions of parents, teachers, students.
- ☐ special evidence of learning or applying ideas.



## Me and my Environment

### OBJECTIVE FOCUS FOR THIS ACTIVITY

#### UNIT GOALS:

1. Explore his immediate environment through a variety of sensory experiences and physical contacts.
2. Recognize the environmental components essential for all living things.
3. Create a greater interest in, and a more sensitive attitude toward, his environment.
4. Understand that his environment includes the whole Earth.

#### CORE A OBJECTIVES:

1. Expand the use of his senses.
2. Identify a wide variety of things in his environment.
3. Identify some qualities that make environments alike or different.
4. Determine the relationship he has with other living things.
5. Infer the needs of plants and animals.

### MATERIALS

### TEACHING STRATEGIES

#### Activity 1-12. An Animal Environment

*The purpose of this activity is to assess the students' comprehension of the concepts in this core. In the first part students answer and discuss two questions. Part II of this activity is designed to help the students apply*

**THIS ACTIVITY**

re his immediate environment through  
 a variety of sensory experiences and  
 social contacts.

imize the environmental components  
 available for all living things.

Develop a greater interest in, and a more  
 positive attitude toward, his environment.

Understand that his environment includes  
 the whole Earth.

Objectives:

1. Understand the use of his senses.

2. Identify a wide variety of things in his  
 environment.

3. Identify some qualities that make  
 environments alike or different.

4. Examine the relationship he has with  
 living things.

5. Understand the needs of plants and animals.

**TEACHING STRATEGIES**Animal Environment

This activity is to assess the students'  
 understanding of the concepts in this core. In the first  
 part, the teacher will ask and discuss two questions. Part II  
 is designed to help the students apply

UNIT I.

EXPLORING MY ENVIRONMENT



CORE A.

SENSING MY ENVIRONMENT

**BSCS**

ACTIVITY 1-12. AN ANIMAL ENVIRONMENT

**ANTICIPATED STUDENT BEHAVIORS**

At the end of this activity, each student should:

- have completed Worksheet 1-4 and discussed his  
 answers to the questions.
- have closely observed the classroom pond and the  
 classroom land animal.

# ACTIVITY 1-12

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## MATERIALS

\*35mm Slide projector  
Worksheet 1-4  
Slides 1-31 and 1-32

Slide 1-31

Worksheet 1-4

Date \_\_\_\_\_ Name \_\_\_\_\_

SLYING LIST

1. What is the sense of touch?  
2. What is the sense of sight?  
3. What is the sense of hearing?  
4. What is the sense of smell?  
5. What is the sense of taste?

WHICH ORGANS HELP YOU TELL IF ALL OF THESE WERE  
PART OF YOUR BODY?

1. 2. 3. 4. 5.

NAME ALL 5 ON YOUR CHOICE

\*Not furnished in materials kit

## TEACHING STRATEGIES

*what they have learned about using their sense when exposed to an environment which is unfamiliar to them. The students will observe their classroom animal's habitat and determine, through observation and discussion, what things are a part of that animal's environment.*

### Part I.

TODAY LET'S THINK ABOUT SOME OF THE THINGS WE HAVE LEARNED ABOUT OUR SENSES AND OUR ENVIRONMENT. I WILL HAND OUT A WORKSHEET AND READ THE QUESTIONS ON IT TO YOU. AS I READ A QUESTION, MARK EACH ANSWER THAT APPLIES. WE WILL TALK ABOUT YOUR ANSWERS AFTER WE HAVE FINISHED THE WORKSHEET. ARE THERE ANY QUESTIONS?

Distribute Worksheet 1-4 containing two questions and have students put their names and the date on it.

Project each question separately. Read the question and answers aloud to the students. Read the item a second time, allowing ample time for them to mark their worksheets. Repeat this procedure for the second question. Make sure all students are marking the question that is being projected.

After the students have answered the questions, collect the worksheets. Then project each slide again and discuss the answers with them. (Refer to Tallysheet 1-1 for the correct answers.) Have them defend their choices. After class, tally the students answers on Tallysheet 1-1. Consider whether the whole class needs further review or if only a few individuals need special attention.

## TEACHING STRATEGIES

turned about using their senses when  
environment which is unfamiliar to them.  
observe their classroom animal's habitat  
rough observation and discussion, what  
of that animal's environment.

THINK ABOUT SOME OF THE THINGS  
NED ABOUT OUR SENSES AND OUR  
I WILL HAND OUT A WORKSHEET  
QUESTIONS ON IT TO YOU. AS I  
ION, MARK EACH ANSWER THAT  
WILL TALK ABOUT YOUR ANSWERS  
VE FINISHED THE WORKSHEET. ARE  
ESTIONS?

heet 1-4 containing two questions and have  
r names and the date on it.

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dents are marking the question that is

s have answered the questions, collect  
hen project each slide again and discuss  
them. (Refer to Tallysheet 1-1 for the  
Have them defend their choices. After  
students answers on Tallysheet 1-1.  
the whole class needs further review or if  
uals need special attention.

## ANTICIPATED STUDENT BEHAVIORS

At the end of this activity, each student should:

- have closely observed the classroom pond and the classroom land animal.
- have identified some of the environmental components of his classroom habitat, the land animal's habitat, and the water animal's habitat.
- have recognized that there is a relationship between himself and the living things in his classroom.
- have successfully completed and reported on a poster of an animal's environment.



## MATERIALS

Slide 1-32

2 MARK AN X ON EACH THING THAT COULD BE A PART OF THE ENVIRONMENT

A. SMOKE	B. MUSIC	C. GARBAGE	D. FLOWERS
E. PEOPLE	F. CLOUDS	G. SPELLS	H. ARTS

## TEACHING STRATEGIES

After discussion of the questions, proceed to the next part.

### Part II.

Begin by having the students sit around the pond.

Ask:

WHO CAN REMEMBER WHAT THE WORD "ENVIRONMENT" MEANS?

Then say:

WE HAVE BEEN LOOKING AT OUR ENVIRONMENT.  
LET'S LOOK AT THE ENVIRONMENT OF OUR  
POND ANIMALS.

Focus the student's attention on a fish.

WHAT THINGS ARE VERY IMPORTANT TO THE FISH?

Say:

ARE THESE A PART OF THE FISH'S ENVIRONMENT?

WHY?

Ask:

HOW DOES THE FISH GET THESE THINGS?

THEN ARE YOU A PART OF ITS ENVIRONMENT?

WHY?

## TEACHING STRATEGIES

on of the questions, proceed to the next

the students sit around the pond.

REMEMBER WHAT THE WORD "ENVIRONMENT"

EN LOOKING AT OUR ENVIRONMENT.  
K AT THE ENVIRONMENT OF OUR  
ALS.

ent's attention on a fish.

GS ARE VERY IMPORTANT TO THE FISH?

A PART OF THE FISH'S ENVIRONMENT?

HE FISH GET THESE THINGS?

OU A PART OF ITS ENVIRONMENT?

## ANTICIPATED STUDENT BEHAVIORS

Students:

--recall, "Everything around us," "Everything that  
we see, hear, touch, taste, and smell."

--respond, "Food," "Air," "Water," "Quiet," "A  
place to hide."

--respond, "Yes."

--respond, "Because they're around it."

--respond, "We have to get them for it."

--respond, "Yes," "I guess so."

--respond, "Because it needs us," "We help it,"  
"We're around it."

ACTIVITY 1-12

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### MATERIALS

### TEACHING STRATEGIES

CAN YOU THINK OF SOMETHING AROUND THE FISH  
THAT IS NOT IMPORTANT TO IT?

ARE THEY ALSO A PART OF THE FISH'S ENVIRONMENT?

WHY?

CAN YOU HEAR THE FISH? LISTEN.

WHAT DO YOU HEAR?

DO YOU THINK THE FISH CAN HEAR YOU?

HOW COULD WE FIND OUT?

Have a student tap the side of the pond near the fish.

Ask:

WHAT HAPPENED?

WHY DO YOU SUPPOSE IT MOVED?

Explain to the students that while a fish does not have ears it does have certain places on its body that are sensitive to sound. Fish, then, are able to "hear".

WHY IS IT IMPORTANT FOR THE FISH TO HEAR THINGS  
IN HIS ENVIRONMENT?

DO YOU THINK IT CAN SMELL? WHY OR WHY NOT?

### TEACHING STRATEGIES

IS SOMETHING AROUND THE FISH  
IMPORTANT TO IT?

PART OF THE FISH'S ENVIRONMENT?

DOES THE FISH LISTEN?

OR?

COULD THE FISH HEAR YOU?

SHOUTED OUT?

ON THE side of the pond near the fish.

COULD IT HAVE MOVED?

It's that while a fish does not have  
certain places on its body that are  
fish, then, are able to "hear".

IS IT IMPORTANT FOR THE FISH TO HEAR THINGS  
IN THE ENVIRONMENT?

COULD THE FISH SMELL? WHY OR WHY NOT?

### ANTICIPATED STUDENT BEHAVIORS

Students:

--respond, "Chairs," "Tables," "Desks," "A grain  
of sand," etc.

--respond, "Yes," "I guess so."

--respond, "Because they're still around it and near  
to it."

--respond, "Yes," "No."

--respond, "Waves," "Nothing."

--respond, "I don't know."

--respond, "Make a noise," "Yell at it," "Tap the  
pond," etc.

--respond, "It moved."

--respond, "Maybe it heard the sound," "Maybe  
because the water moved."

--respond, "Because it can tell when someone's  
coming," "It's a warning."

--respond, "It goes after food," "It doesn't have  
a nose," "It has to."

## MATERIALS

## TEACHING STRATEGIES

IF A FISH CAN SMELL, WHAT ELSE, THEN, COULD YOU SAY IS A PART OF ITS ENVIRONMENT?

NOW EACH OF YOU LOOK FOR SOMETHING AROUND THE FISH THAT HASN'T BEEN MENTIONED, YET MIGHT BE A PART OF ITS ENVIRONMENT.

Have each student report what he found and tell the class why he thinks it's a part of the fish's environment. Now focus the students' attention on the land animal (classroom pet). Use the same strategy as above for determining its environment.

**GIVE STUDENTS  
TIME  
TO  
THINK**



When the students have finished discussing the environment of their land and pond animals, say:

WE HAVE TALKED ABOUT THE ENVIRONMENTS OF OUR LAND AND POND ANIMALS. YOU HAVE SAID THAT YOU ARE A PART OF THEIR ENVIRONMENT. ARE THEY ALSO A PART OF YOUR ENVIRONMENT?

WHY?

WHAT ELSE IS IN YOUR ENVIRONMENT?

Be sure the students mention sounds, smells, and tastes in their answers.

## STRATEGIES

WHAT ELSE, THEN, COULD  
ITS ENVIRONMENT?

FOR SOMETHING AROUND THE  
MENTIONED, YET MIGHT BE  
ENVIRONMENT.

What he found and tell the  
part of the fish's environ-  
ments' attention on the land  
use the same strategy as above  
environment.

**GIVE STUDENTS  
TIME  
TO  
THINK**

Finished discussing the environ-  
ment and animals, say:

THE ENVIRONMENTS OF OUR  
FISH. YOU HAVE SAID THAT YOU  
KNOW THEIR ENVIRONMENT. ARE THEY ALSO  
IN THE ENVIRONMENT?

ENVIRONMENT?

on sounds, smells, and tastes

## ANTICIPATED STUDENT BEHAVIORS

ACTIVITY 1-12

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Students:

--respond, "Smells," "All things it smells."

--look carefully around the room to name things  
that haven't previously been mentioned such as,  
"Ceiling," "Floor," "Sink," etc.

--specify environmental components of their land  
animals.

--respond, "Yes."

--respond, "They are in our room," "We have to  
take care of them," "We see them," "They're  
around us."

ACTIVITY 1-12

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### MATERIALS

### TEACHING STRATEGIES

As a culmination of this core, have each student choose a land or pond animal in the room and draw or cut out pictures to show its environment. Be sure the students include all of the things that stimulate the senses, such as sights, sounds, and tastes. They should also include the things that fulfill the animals' needs such as light, air, shelter, etc.

Distribute large sheets of colored paper. Have paste, magazines, felt markers, colored paper, etc., available

Say:

WE HAVE DISCUSSED WHAT AN ENVIRONMENT IS AND HOW THE SENSES ARE USED TO DISCOVER MORE ABOUT THE ENVIRONMENT. WE HAVE ALSO TALKED ABOUT WHAT ANIMALS NEED TO LIVE. TODAY YOU ARE TO PRETEND TO BE ONE OF THE ANIMALS IN OUR CLASSROOM. CHOOSE ANY ANIMAL YOU WISH EXCEPT PEOPLE! WHEN YOU HAVE MADE YOUR CHOICE, MAKE A PICTURE OF THE ENVIRONMENT FROM THE POINT OF VIEW OF THAT ANIMAL. YOU MAY DRAW THINGS, CUT OUT PICTURES TO USE, AND WRITE IN HOW THE ANIMAL MIGHT BE REACTING TO WHAT HE SENSES. YOU CAN TITLE YOUR POSTER, "AN ANIMAL'S ENVIRONMENT," OR MAKE UP A TITLE OF YOUR OWN.

DO YOU KNOW WHAT TO DO?

GI  
STUD  
T

## TEACHING STRATEGIES

## ANTICIPATED STUDENT BEHAVIORS

Students:

### ASK FOR OTHER IDEAS

At this core, have each student choose an animal in the room and draw or cut out a picture of its environment. Be sure the students include things that stimulate the senses, such as sights, sounds, and tastes. They should also include what fulfill the animals' needs such as food, water, etc.

Have sheets of colored paper. Have paste, glue, scissors, colored paper, etc., available.

After students have decided what an environment is and how it is used to discover more about it, we have also talked about how animals are used to live. Today you are to choose one of the animals in our class--any animal you wish except the one you have made your choice, and draw a picture of the environment from the point of view of that animal. You may draw pictures to use, and write what the animal might be reacting to. You can title your poster, "My Animal's Environment," or make up a title of your own.

What to do?

--explain the assignment.

  
**GIVE SEVERAL  
STUDENTS A CHANCE  
TO RESPOND**



## MATERIALS

## TEACHING STRATEGIES

If necessary, elaborate by saying:

DRAW WHAT YOU THINK THE ANIMAL SEES, FEELS, SMELLS, HEARS, AND TASTES. ALSO SHOW WHAT IT NEEDS TO LIVE. TRY TO MAKE YOUR PICTURE SHOW THE ENVIRONMENT AS YOUR ANIMAL VIEWS IT.

Ask:

WHAT DO YOU NEED TO DO BEFORE YOU BEGIN?

Assist students as needed. When they have their posters finished, display them in the room and have each student briefly explain his own. Remind the students to tell how the poster shows the animal's needs for life and how it senses its environment.

As each student describes his poster, use Tallysheet 1-1 to rate the accuracy of the view of the environment portrayed for the chosen animal.

Choose several of the posters to send in to BSCS with the tallysheet.

## TEACHING STRATEGIES

aborate by saying:

YOU THINK THE ANIMAL SEES, FEELS,  
RS, AND TASTES. ALSO SHOW WHAT  
LIVE. TRY TO MAKE YOUR PICTURE  
VIRONMENT AS YOUR ANIMAL VIEWS IT.

NEED TO DO BEFORE YOU BEGIN?

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his own. Remind the students to tell  
hows the animal's needs for life and how  
vironment.

describes his poster, use Tallysheet 1-1  
racy of the view of the environment  
e chosen animal.

f the posters to send in to BSCS with

## ANTICIPATED STUDENT BEHAVIORS

ACTIVITY 1-12

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Students:

--respond, "Decide on which animal's environment  
we want to show," "Decide on whether we want  
to draw or cut out pictures," "Look carefully at  
the animal's environment," "Decide what its  
needs are."

Teacher \_\_\_\_\_  
Date \_\_\_\_\_

UNIT I, CORE A  
TALLY SHEET 1-1: Tally of Worksheet 1-4 and Rating of Posters  
ACTIVITY 1-12: "An Animal Environment"

Student's Answers to Worksheet 1-4.

Circle each student's answers to Worksheet 1-4 in columns 1 and 2 below. In question 2 the best response would be to mark all twelve options (A-L). Six of the options have been touched upon in some way in this core and students should select them as part of the environment (B, D, E, G, J, L). The other six options are more ephemeral, remote, or have a negative connotation. Some of your students should have a broader concept of environment and mark these (A, C, F, H, I, K). Be sure to have students who marked these explain their reasons.

Rating of Poster, "An Animal's Environment."

See the back of this Tallysheet for instructions on rating poster.

KEY:	1 (Ears)												2 (Environment)											
	A	B	C	D	E	F	G	H	I	J	K	L	A	B	C	D	E	F	G	H	I	J	K	L
Attach ID list here.	A	B	C	D	E	F	G	H	I	J	K	L	A	B	C	D	E	F	G	H	I	J	K	L
	A	B	C	D	E	F	G	H	I	J	K	L	A	B	C	D	E	F	G	H	I	J	K	L
	A	B	C	D	E	F	G	H	I	J	K	L	A	B	C	D	E	F	G	H	I	J	K	L
	A	B	C	D	E	F	G	H	I	J	K	L	A	B	C	D	E	F	G	H	I	J	K	L
	A	B	C	D	E	F	G	H	I	J	K	L	A	B	C	D	E	F	G	H	I	J	K	L
	A	B	C	D	E	F	G	H	I	J	K	L	A	B	C	D	E	F	G	H	I	J	K	L
	A	B	C	D	E	F	G	H	I	J	K	L	A	B	C	D	E	F	G	H	I	J	K	L
	A	B	C	D	E	F	G	H	I	J	K	L	A	B	C	D	E	F	G	H	I	J	K	L
	A	B	C	D	E	F	G	H	I	J	K	L	A	B	C	D	E	F	G	H	I	J	K	L
	A	B	C	D	E	F	G	H	I	J	K	L	A	B	C	D	E	F	G	H	I	J	K	L
	A	B	C	D	E	F	G	H	I	J	K	L	A	B	C	D	E	F	G	H	I	J	K	L
	A	B	C	D	E	F	G	H	I	J	K	L	A	B	C	D	E	F	G	H	I	J	K	L

[illegible]

**TOTALS:**

Not in instruction:

Does this review give an accurate indication of student understanding?  
If not, what other evidence do you have of student learning?

☐ Yes ☐ No

No

[illegible]

Does this review give an accurate indication of student understanding?  
If not, what other evidence do you have of student learning?

☐ Yes ☐ No

UNIT 1, CORE A  
ACTIVITY 1-12. "An Animal Environment"

Activity name suggested by class:

Teacher

BSCS USE: Post Tally v  
Day 1 Day 2 Day 3 Day 4 Day 5 Day 6

1.	Date taught (month and date, e.g. 11/2)						
2.	Minutes of class time on science each day						
3.	Minutes of preparation each day						
4.	Students absent on each date (Use ID Number)						

5. Interest of class as expressed by apparent attention to what is happening.

Number of students responding with: Name students you noted especially:  
(Number)

HIGH INTEREST	_____
MODERATE INTEREST	_____
INDIFFERENCE	_____
MODERATE RESISTANCE	_____
STRONG DISLIKE	_____
HARD TO RATE	_____

6. Equipment in kit: ☐ None ☐ Satisfactory ☐ Too fragile ☐ Too complicated ☐ Difficult to use7. Equipment I got: ☐ None needed ☐ Easy to get ☐ Hard to get, but okay ☐ Hard to get, add to kit ☐ Unobtainable, add to kit

8. Materials used:	Worksheet #	Game #	Slides (show slide nos.)	Transparency #	Card(s) #	Tape(s) #	Other #
Worthwhile as is							
Revise slightly							
Revise much							
Worthless: omit							

9. Maturity level is ☐ just right ☐ too childish ☐ too mature Explain:10. Vocabulary level is ☐ just right ☐ too easy ☐ too difficult Explain:11. Were teacher instructions clear enough to follow? ☐ Yes ☐ No - Pages and Problem:12. Were clues to success and reviews of success helpful? ☐ Yes ☐ No - Why not?13. Did the activity fulfill the purpose stated by the Guide? ☐ Yes ☐ No - Comment:14. Were any parts of this activity omitted? ☐ No ☐ Yes - Explain:

15. Your rating of this activity:

☐ Worthwhile ☐ Of value--needs the revision suggested ☐ Worth salvaging--make major changes described ☐ Worthless --drop it

SPECIFIC CONCERNS ABOUT THIS ACTIVITY:

	#	#	#	#	#	#	#	#	#	#	#	#	#	#
Worthwhile as is														
Revise slightly														
Revise much														
Worthless: omit														

9. Maturity level is ☐ just right ☐ too childish ☐ too mature Explain:
10. Vocabulary level is ☐ just right ☐ too easy ☐ too difficult Explain:
11. Were teacher instructions clear enough to follow? ☐ Yes ☐ No -Pages and Problem:
12. Were clues to success and reviews of success helpful? ☐ Yes ☐ No -Why not?
13. Did the activity fulfill the purpose stated by the Guide? ☐ Yes ☐ No - Comment:
14. Were any parts of this activity omitted? ☐ No ☐ Yes - Explain:
15. Your rating of this activity:  
☐ Worthwhile ☐ Of value--needs the ☐ Worth salvaging--make ☐ Worthless  
--keep as is revision suggested major changes described --drop it
- SPECIFIC CONCERNS ABOUT THIS ACTIVITY:
16. There are always parts of activities that are good and need not be changed.  
What parts of this activity should be retained when the curriculum is revised?  
Page(s) \_\_\_\_\_:

17. Did any student give away the answer to either question on the worksheet?  
☐ No ☐ Yes: Comment.
18. Did students have difficulty assuming the animals' perspective (looking out rather than in) for their poster?  
☐ No ☐ Yes: Comment.
19. Concern (or questions) about content:
20. Messages for staff (read immediately):

BSCS Evaluation: EMH Feedback Form 1c

Have you answered each question, attached annotated Guide, your revisions, student work, etc.?  
-----



UNIT 1, WEEK 1  
ACTIVITY 1-1-3 "An Animal Environment"

Teacher \_\_\_\_\_

## REPORT OF WHAT HAPPENED AND SUGGESTIONS FOR REVISION

1. Whenever practical write all over your second copy of the Guide. Tear out the activity and send the annotated Guide in with this form.
2. Make specific suggestions - exactly what you think should appear in the Guide.
3. Tell us what you did. Think of what you needed, what you had to work out for yourself, how you presented something to make it go over.
4. Describe the revisions you said were needed in answering the questions on the other side of this form.
5. As a reminder of things that help in revision, read through the following list and check off things you want to be sure to note this time. (We know you can't tell about everything every time!)

## THE LESSON

- ☐ how you organized materials or class.
- ☐ things added (a question, a picture, etc.).
- ☐ equipment, supplies, visual aids.
- ☐ things that went wrong, misunderstandings.
- ☐ what you would do differently

or avoid next time.

- ☐ turmoil in the class caused by the activity, or disruptive students, or interruptions, and how you dealt with them.

## THE STUDENTS

- ☐ who had problems and what they were.
- ☐ how someone "caught on" (or who never did).
- ☐ who was really "turned off" (or on).
- ☐ reactions of parents, teachers, students.
- ☐ special evidence of learning or applying ideas.

UNIT I  
REACTIONS TO CORE A

1. Was the background information for this core adequate? ☐ Yes ☐ No  
Comment:
2. Was it clear to you why these particular activities were chosen and the direction they were leading? ☐ Yes ☐ No  
Comment:
3. Did the activities fulfill the purposes stated in the Guide for this core? ☐ Yes ☐ No  
Comment:
4. How would you increase the clarity of this core for students? (Help them understand why they are doing these activities.)
5. Is there a practical (take-home) value for your students in these activities? ☐ Yes ☐ No
6. If yes, what do you see as the "take-home" lesson? If no, what is needed?
7. In these materials, what things did your students find difficult to do?
8. Should there be more clues to success or reviews of success in this core? ☐ Yes ☐ No  
Comment:
9. Was there too much reading and too many teacher directions? ☐ Yes ☐ No  
Comment:
10. Did you make use of the Planning Guide? ☐ Yes ☐ No  
Comment:

In these materials, what things did your students find difficult to do?

8. Should there be more clues to success or reviews of success in this core? ☐ Yes ☐ No  
Comment:

9. Was there too much reading and too many teacher directions? ☐ Yes ☐ No  
Comment:

10. Did you make use of the Planning Guide? ☐ Yes ☐ No  
Comment:

11. If you could teach your way, rather than following the Guide, how would you do it?

12. Which of your students do you believe were unsuccessful in achieving the objectives of this core of activities? Explain.

ESCC Evaluation: EMH Feedback Form 2a

SIDE A

# NEW STUDENTS ENTERING DURING THIS CORE

Date Entered	Last Name	Name Used	Ethnic Group	Sex	Birthdate	Test date	Test	Tot
			W B S O	M F			W B O	
			W B S O	M F			W B O	
			W B S O	M F			W B O	
			W B S O	M F			W B O	

## STUDENTS DROPPED IN THIS PERIOD

Date Dropped	Last Name	First

W = white  
 B = black  
 S = Spanish-  
 American  
 O = other

W = WISC  
 B = Binet  
 O = other  
 (name)

ADDITIONAL INFORMATION ON NEW STUDENTS:

STUDENTS ENTERING DURING THIS CORE

Birthdate	Test date	Test	Total	Verbal	Performance	Previous Test Score
		W B O				
		W B O				
		W B O				
		W B O				

W = WISC  
 B = Binet  
 O = other  
     (name)

SIDE B



## Me and my Environment

### UNIT I. EXPLORING MY ENVIRONMENT

#### AIMS FOR ME AND MY ENVIRONMENT

1. DEVELOPMENT IN EACH CHILD OF A SENSE OF IDENTITY AS A PERSON WHO HAS SOME DEGREE OF CONTROL OVER AND CAN ACT ON HIS ENVIRONMENT. This will lead to a degree of self-determination based on a rational coping with situations rather than on a passive compliance or an impulsive response to problems.
2. DEVELOPMENT IN EACH CHILD OF A SUCCESS SYNDROME. More than anything else, each activity is intended to be a success experience for each child. It is the teacher's responsibility -- almost obligation -- to see that each child succeeds at a level that is challenging to his abilities and that preserves his self-respect. It is a further responsibility of the teacher to point out his achievement. The students as a group should help each individual fit what he has done into a pattern of accomplishment.
3. DEVELOPMENT IN EACH CHILD OF AN INTEREST THAT COULD BECOME A HOBBY OR AVOCATION OVER A LIFETIME (through an exposure to an array of experiences in science). It is hoped that many children will find some area -- perhaps growing plants, caring for animals, identifying flowers, collecting things, or simply enjoying outings into the country -- that they feel strongly about and can develop some competence or knowledge in. This would provide a means of self-expression, and (perhaps) allow some degree of sharing or involvement with others.
4. DEVELOPMENT IN EACH CHILD OF A SENSE OF RELATIONSHIP AND EMPATHY WITH OTHER LIVING THINGS. It is hoped that this will lead to a positive regard and caring about what affects them as individuals and as a group, because what affects them affects the community of man.
5. DEVELOPMENT IN EACH CHILD OF AN UNDERSTANDING OF ENVIRONMENTAL CONDITIONS that will lead to a sense of responsibility for the environment and actions that protect or improve it.

1. Explore his immediate environment and physical contacts.
2. Recognize the environmental components.
3. Create a greater interest in, and appreciation of, the environment.
4. Understand that his environment affects him.

#### OBJECTIVES

1. Explore a variety of environmental conditions and characteristics.
2. Group things according to observed characteristics.
3. Practice making estimates and predictions.
4. Determine new relationships he can observe.

**BSCS****UNIT I. EXPLORING MY ENVIRONMENT****UNIT I GOALS**

1. Explore his immediate environment through a variety of sensory experiences and physical contacts.
2. Recognize the environmental components essential for all living things.
3. Create a greater interest in, and a more sensitive attitude toward, his environment.
4. Understand that his environment includes the whole Earth.

**OBJECTIVES OF CORE B**

1. Explore a variety of environmental components and examine their properties and characteristics.
2. Group things according to observable attributes, sources, or functions.
3. Practice making estimates and predictions.
4. Determine new relationships he has with his environment.



## Me and my Environment

UNIT I. EXPLORING MY ENVIRONMENT

CORE B. INVESTIGATING MY ENVIRONMENT

### CORE B RATIONALE

"Investigating My Environment" is an extension of the previous core, "Sensing My Environment." Activities for the preceding core have been designed to increase the student's powers of perception so that sensory awareness of his immediate environment would become more acute. The central aims for the activities in this core are to have the student extend and use these powers of perception to develop both quantitative and qualitative attitudes in viewing his immediate environment.

Activities in classification and categorizing have been sequentially arranged so that students develop an awareness that there are functional reasons for grouping. Certain of the activities have been designed to allow the student to place the same object in a number of different groups. This should lead to an understanding that observable attributes, sources, or functions are among the many justifiable reasons for forming categories.

A thorough conceptual understanding of all of the major environmental components is not easily developed, but the intent is to develop an awareness of some of them. Several activities have been devoted to temperature because temperature is an important environmental component, and its fluctuations obviously affect all living things. The ability to read a thermometer is an important functional skill. Taking the body temperature when ill or reading a thermostat in the home are common functions requiring thermometer reading skills.

The activities are designed so that the student will experience the effect of temperature differences both on himself and on other organisms. As a result the student will realize the necessity for knowing how to use a thermometer and will practice taking temperatures.

### BACKGROUND

The activities on cat in order to give the student into groups. The student because of observable characteristics defined criteria.

In the activities on of temperature changes on areas, but if they can't suffice. All living things tolerance level, beyond which cold, the ants go underground shelter and come out periodically in the pond will also that the minimum temperature should not be used in the maximum and minimum temperature design an experiment to test plants, it may add interest plants, one that will be a and one that can withstand

The opening story in *Travels*; it is used to stimulate for standard units in common interest in what happened version of the story in the English class.



UNIT I. EXPLORING MY ENVIRONMENT

CORE B. INVESTIGATING MY ENVIRONMENT



BSCS

#### BACKGROUND INFORMATION FOR THE TEACHER

The activities on categorizing have been sequentially developed in order to give the student a functional purpose for sorting things into groups. The student learns to assign objects in categories because of observable characteristics, sources, functions, or other defined criteria.

In the activities on temperature, ants are used to show the effect of temperature changes on living things. Ants are easy to find in most areas, but if they can't be found, any other cold blooded organism will suffice. All living things have a maximum and minimum temperature tolerance level, beyond which death will occur. When the weather turns cold, the ants go underground. Mammals, being warm blooded, either find shelter and come out periodically or hibernate in cold weather. Organisms in the pond will also respond to temperature changes. Please note that the minimum temperature for tropical fish is 65°F. They, therefore, should not be used in the temperature experiments. Plants also have maximum and minimum temperature tolerances. If the students do wish to design an experiment to test the effects of temperature changes on plants, it may add interest and learning opportunities to select two plants, one that will be affected when the temperature is above freezing and one that can withstand very cold temperatures.

The opening story in Activity 1-21 is a takeoff on *Gulliver's Travels*; it is used to stimulate interest in and appreciate the necessity for standard units in communicating size and distance. If students show interest in what happened to Gulliver, perhaps they can find a simplified version of the story in the school library and can read this in their English class.



## **Me and my Environment**

UNIT I. EXPLORING MY ENVIRONMENT

CORE B. INVESTIGATING MY ENVIRONMENT

### CORE B RATIONALE (continued)

The intent in Activity 1-21 is for the student to realize and appreciate a need for measuring and for the use of some common standard in order to communicate.

UNIT I. EXPLORING MY ENVIRONMENT

CORE B. INVESTIGATING MY ENVIRONMENT



**BSCS**


realize and  
common



## Me and my Environment

UNIT I  
CORE B

## PLANNING GUIDE


NOTE: Some activities (indicated in *italics* and an  in the margin) should be prepared several days or weeks in advance. Use this guide to prepare a teaching and preparation schedule. All supplies needed are listed.

Activity Number, Page, Tentative Teaching Date	Check List of Supplies Needed		<i>(Italics are for supplies to be prepared in advance)</i>
	Materials You Furnish	Materials in Supply Kit	
1-13. Introduction To Sorting  Page _____ Date planned _____	White and yellow pages of the phone book Scissors Paste, glue or tape Paper 35mm. Slide projector	Worksheet 1-5 Worksheet 1-6 Slide 1-33 Slide 1-34	Several copies One pair per student Class supply At least one set  Grocery List A Grocery List B Worksheet 1-5 Worksheet 1-6
1-14. Sorting Things In Our Environment  Page _____ Date planned _____	Sturdy paper bag or small box 3" X 5" Index cards Blank 3" X 5" Index cards		<i>One per student</i> About six with About thirty
1-15. Categorizing In Terms Of Living -- Nonliving  Page _____ Date planned _____	Strips of paper or cards for labeling tables Overhead projector	Petri dish 10% Nitric acid Mercury Spatula Medicine dropper Potassium dichromate (crystal form)	Three -- Any size  Top or bottom half Enough to cover Several good sized One One  Small amount needed

## PLANNING GUIDE



BSCS

activities (indicated in italics and an  in the margin) must be prepared several day or weeks in advance. Use this summary as a guide for advance preparation and preparation schedule. All supplies needed are listed.


Supplies Needed	Notes and Suggestions to Teacher
Materials in Supply Kit	<i>(Italics and Arrow Indicate Advance Preparation Directions)</i>
Worksheet 1-5 Worksheet 1-6 Slide 1-33 Slide 1-34	<i>Several copies</i> One pair per student Class supply At least one sheet per student  Grocery List A - Not grouped Grocery List B - Grouped Worksheet 1-5 Worksheet 1-6
	<i>One per student</i> About six with criterion written on them About thirty
Petri dish 10% Nitric acid Mercury Spatula Medicine dropper Potassium dichromate (crystal form)	Three -- Any size possible  Top or bottom half -- Use glass petri dish Enough to cover bottom of petri dish Several good size droplets One One  Small amount needed



## Me and my Environment

UNIT 1  
CORE B

## PLANNING GUIDE


NOTE: Some activities (indicated in *italics* and an  in be prepared several days or weeks in advance. Use a teaching and preparation schedule. All supplies


Activity Number, Page, Tentative Teaching Date	Check List of Supplies Needed		(Italics)
	Materials You Furnish	Materials in Supply Kit	
1-16. Forming Categories  Page _____ Date planned _____		Environmental Rummy Game Spinner cards	Four decks Four
1-17. Review Of Success  Page _____ Date planned _____	Ditto master Scissors Paste or glue		One One pair per Class supply
1-18. Temperatures Affect All Living Things  Page _____ Date planned _____	Bowls or pie pans Baby food jars Collection of ants Ice String (27" pieces) Nylon net or mesh Rubber bands Container large enough to put hand in		One per student One per student At least one Five pound One per student Enough to cover Fifteen - to  Six to eight

## PLANNING GUIDE



BSCS

Activities (indicated in italics and an  in the margin) must be ordered several days or weeks in advance. Use this summary as a planning and preparation schedule. All supplies needed are listed.

Supplies Needed	Notes and Suggestions to Teacher
Materials in Supply Kit	(Italics and Arrow Indicate Advance Preparation Directions)
Environmental Rummy Game Spinner cards	Four decks Four
	One One pair per student Class supply
	 One per student One per student At least one ant per student Five pound bag One per student Enough to cover each baby food jar Fifteen - twenty  Six to eight large containers (gallon or larger)



## Me and my Environment

UNIT I  
CORE B

## PLANNING GUIDE

NOTE: Some activities indicated in italics and an arrow in the margin should be prepared several days or weeks in advance. Use this guide to develop a teaching and preparation schedule. All supplies needed are listed.


Activity Number, Page, Tentative Teaching Date	Check List of Supplies Needed		(Italics indicate supplies to be prepared in advance)
	Materials You Furnish	Materials in Supply Kit	
1-19. Reading A Thermometer  Page _____ Date planned _____	Thin cardboard Paste or glue Red string or yarn White string or yarn Stapler Colored pencils Scissors Hole puncher 35mm Slide projector	Thermometers Model of thermometer Worksheet 1-7 Slide 1-35	One per student Class supply 25" piece per student 25" piece per student One One per student One pair per student One  One per student One per class Thermometer Worksheet 1-7
1-20. Temperatures In My Outside Environment  Page _____ Date planned _____	Ice Water Materials for making a chart to record temperatures for two weeks	Thermometers Beakers	Small amount Supply of  Supplies to make One per pair Three large (1 gallon)
1-21. Measurement In My Environment  Page _____ Date planned _____	String Rulers Scissors	Worksheet 1-8 Camera (Polaroid Square Shooter)	Large ball One per student One pair per student Pre-instructional



## PLANNING GUIDE



**BSCS**

ties (indicated in italics and an  in the margin) must be prepared several days or weeks in advance. Use this summary as a guide for advance preparation and preparation schedule. All supplies needed are listed.

Supplies Needed	Notes and Suggestions to Teacher
Materials in Supply Kit	(Italics and Arrow Indicate Advance Preparation Directions)
Thermometers Model of thermometer Worksheet 1-7 Slide 1-35	<i>One per student</i> Class supply <i>25" piece per student</i> <i>25" piece per student</i> One One per student One pair per student One  One per student One per class Thermometer Worksheet 1-7
Thermometers Beakers	Small amount Supply of  <i>Supplies to make one large class chart of temperature</i> One per pair of students Three large (1000 ml)
Worksheet 1-8 Camera (Polaroid Square er)	Large ball One per student One pair per student Pre-instruction items for teacher use



## Me and my Environment


UNIT I  
CORE B

## PLANNING GUIDE

NOTE: Some activities indicated in italics and an arrow be prepared several days or weeks in advance. a teaching and preparation schedule. All suppl.

Activity Number, Page, Tentative Teaching Date	Check List of Supplies Needed		(It)
	Materials You Furnish	Materials in Supply Kit	
1-22. Review of Success  Page _____ Date planned _____	35mm Slide projector Scissors Stapler Strip of paper Paper strips  12" Rulers	Worksheet 1-9 Worksheet 1-10 Slide 1-36 Slide 1-37 Slide 1-38 Slide 1-39 Slide 1-40	One pair One 1" wide One pe. 1" w 1" w One per Plant-A Review Workshe Review Review Review Review

## PLANNING GUIDE

Items (indicated in *italics* and an  in the margin) must be prepared several days or weeks in advance. Use this summary as a guide for preparation schedule. All supplies needed are listed.



**BSCS**

Supplies Needed	Notes and Suggestions to Teacher
Materials in Supply Kit	<i>(Italics and Arrow Indicate Advance Preparation Directions)</i>
<p>Worksheet 1-9</p> <p>Worksheet 1-10</p> <p>Slide 1-36</p> <p>Slide 1-37</p> <p>Slide 1-38</p> <p>Slide 1-39</p> <p>Slide 1-40</p>	<p>One pair per student</p> <p>One</p> <p><i>1" wide X 8 1/2" long</i></p> <p>One per student:</p> <p><i>1" wide X 3 1/2" long</i></p> <p><i>1" wide X 18" long</i></p> <p>One per student</p> <p>Plant-Animal Sort Sheet</p> <p>Review Of Success Questions 1-4</p> <p>Worksheet 1-9</p> <p>Review Of Success Question 1</p> <p>Review Of Success Question 2</p> <p>Review Of Success Question 3</p> <p>Review Of Success Question 4</p>



## Me and my Environment

### OBJECTIVE FOCUS FOR THIS ACTIVITY

#### UNIT GOALS:

1. Explore his immediate environment through a variety of sensory experiences and physical contacts.
2. Recognize the environmental components essential for all living things.
3. Create a greater interest in, and a more sensitive attitude toward, his environment.

#### CORE B OBJECTIVES:

1. Explore a variety of environmental components and examine their properties and characteristics.
2. Group things according to observable attributes, sources, or functions.

### MATERIALS

### TEACHING STRATEGIES

#### Activity 1-13. Introduction To Sorting

*This activity serves simply as an introduction to show students that grouping can be convenient and useful in organizing materials and ideas about their environment. Through this activity students should develop yet another way to perceive their environment.*

**THIS ACTIVITY**

ore his immediate environment through  
society of sensory experiences and  
cal contacts.

onize the environmental components  
etial for all living things.

re a greater interest in, and a more  
ative attitude toward, his environment.

IVES:

ore a variety of environmental  
ponents and examine their properties  
characteristics.

o things according to observable  
tributes, sources, or functions.

UNIT I.

EXPLORING MY ENVIRONMENT



CORE B.

INVESTIGATING MY  
ENVIRONMENT

**BSCS**

ACTIVITY 1-13. INTRODUCTION TO SORTING

**TEACHING STRATEGIES**Introduction To Sorting

is simply as an introduction to show  
ing can be convenient and useful in  
is and ideas about their environment.  
ty students should develop yet another  
eir environment.

**ANTICIPATED STUDENT BEHAVIORS**

*At the end of this activity, each student should:*

- have determined that grouping items facilitates their use.
- have sorted and categorized a grocery list.
- have determined categories for grouping cars in the parking lot.
- have determined how items in the yellow and white pages of the phone book are grouped.
- have recognized some usefulness for grouping things.
- have concluded that things within a group must be alike in at least one way.
- have concluded that grouping helps to make it easier to learn about our environment.

# ACTIVITY 1-13

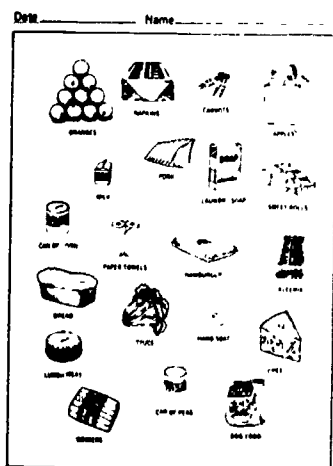
100

## MATERIALS

- Worksheet 1-5 (List A)
- Worksheet 1-6 (List B)
- \*White and yellow pages of the phone book (several copies)
- \*Scissors
- \*Paste, glue, or tape
- \*Paper
- Slides 1-33 and 1-34
- \*35mm Slide projector

Slide 1-33

Worksheet 1-5



\*Not furnished in materials kit

## TEACHING STRATEGIES

Begin this activity by distributing a copy of List A (Worksheet 1-5) to each student:

Say:

DO ANY OF YOU KNOW IF YOUR MOTHER USES A GROCERY LIST WHEN SHE GOES TO THE STORE?

LET'S IMAGINE THAT WE ARE GOING ON A SHOPPING TRIP TO THE GROCERY STORE, AND THAT WE ARE GOING TO USE A GROCERY LIST. LOOK AT THE GROCERY LIST JUST HANDED OUT.

Focus attention on the worksheet by projecting Slide 1-33 of Worksheet 1-5.

Read Grocery List A aloud.

Ask:

IS THERE ANY MEAT ON THE LIST?

WHAT KIND OF MEAT?

(Point to them on the screen.)

ARE THERE ANY FRUITS ON THE LIST?

DO YOU SEE ANY OTHER FOODS THAT BELONG TOGETHER?

Now hand out List B (Worksheet 1-6) to each student.

Say:

LOOK AT THIS GROCERY LIST.

## TEACHING STRATEGIES

ty by distributing a copy of List A  
to each student:

U KNOW IF YOUR MOTHER USES A GROCERY  
E GOES TO THE STORE?

E THAT WE ARE GOING ON A SHOPPING  
GROCERY STORE, AND THAT WE ARE  
A GROCERY LIST. LOOK AT THE  
JUST HANDED OUT.

n the worksheet by projecting Slide 1-33

A aloud.

MEAT ON THE LIST?

MEAT?

the screen.)

Y FRUITS ON THE LIST?

NY OTHER FOODS THAT BELONG TOGETHER?

B (Worksheet 1-6) to each student.

GROCERY LIST.

## ANTICIPATED STUDENT BEHAVIORS

Students:

--respond by raising hands.

--study the list and then respond, "Yes."

--respond, "Weiners," "Hamburger," "Pork," "Lunch  
meat."

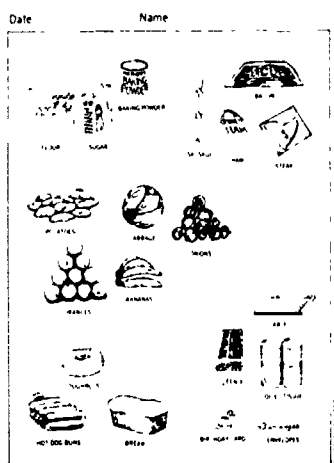
--respond, "Oranges," "Apples."

--respond, "Vegetables," "Types of bread."

## MATERIALS

Slide 1-34

Worksheet 1-6



## TEACHING STRATEGIES

Focus attention on this by projecting Slide 1-34 of Worksheet 1-6.

Read Grocery List B aloud.

Ask:

IS THERE ANY MEAT ON THE LIST?

WHAT KIND OF MEAT?

Have them pointed out on the screen.

WHAT KINDS OF FRUITS ARE ON THE LIST?

Have them pointed out on the screen.

DO YOU SEE ANY OTHER THINGS ON THE LIST THAT BELONG TOGETHER?

WHAT ARE SOME OF THEM?

WAS IT EASIER TO FIND THINGS THAT BELONG TOGETHER ON LIST A OR LIST B?

WHICH ONE WOULD YOU RATHER TAKE WITH YOU ON YOUR SHOPPING TRIP, LIST A OR LIST B?

WHY WOULD YOU RATHER USE LIST B?

WHAT DO YOU THINK WE SHOULD DO TO LIST A TO MAKE IT A BETTER LIST?



## TEACHING STRATEGIES

as by projecting Slide 1-34 of Work-

loud.

ON THE LIST?

?

on the screen.

ITEMS ARE ON THE LIST?

on the screen.

OTHER THINGS ON THE LIST THAT

THEM?

FIND THINGS THAT BELONG  
A OR LIST B?

YOU RATHER TAKE WITH YOU ON YOUR  
LIST A OR LIST B?

OTHER USE LIST B?

WE SHOULD DO TO LIST A TO  
LIST?

## ANTICIPATED STUDENT BEHAVIORS

ACTIVITY 1-13

101

Students:

--respond, "Yes."

--respond with types of meat on the list.

--respond with types of fruit on the list.

--respond, "Yes."

--respond with different categories of items.

--respond, "List B."

--examine the two lists and recognize that since  
the items on one list are grouped as to where  
they would be located in the store, List B would  
be the better one to use.

--respond, "You wouldn't have to run all over the  
store to get things," "You'd get done quicker  
because things are together," etc.

--respond, "Change it around," "Group things  
together," "Straighten it out."

ACTIVITY 1-13

102

### MATERIALS

### TEACHING STRATEGIES

PRETEND THAT YOU HAVE COMPANY COMING FOR DINNER THIS EVENING. YOU HAVE TO SHOP FOR THE FOOD, BUT YOU'RE IN A HURRY SO YOU WON'T HAVE TIME TO GO TO EACH COUNTER SEVERAL TIMES. YOU ARE GOING TO GET THE THINGS ON LIST A, BUT IT NEEDS TO BE CHANGED.

TO MAKE LIST A EASIER AND QUICKER TO USE, YOU WILL HAVE TO CUT OUT THE NAMES AND PICTURES OF EACH ITEM AND PASTE OR TAPE THEM ON A PIECE OF PAPER IN THE ORDER YOU THINK THEY SHOULD BE.

Have scissors, paper, and glue or tape available in a centrally located place.

As the students work, walk around the room to observe how groups are being formed. (If much difficulty is observed, perhaps it would be worthwhile to take a trip to the super-market to show students how things are arranged on shelves. Do this activity again upon your return.)

When the students have finished reorganizing their lists, have them help you make a composite list on the chalk-board. Do this by asking such questions as:

DOES IT MATTER WHERE WE GO FIRST IN THE STORE?

WHAT SECTION SHOULD WE START AT?

## TEACHING STRATEGIES

YOU HAVE COMPANY COMING FOR DINNER. YOU HAVE TO SHOP FOR THEM. YOU'RE IN A HURRY SO YOU WON'T GO TO EACH COUNTER SEVERAL TIMES. GET THE THINGS ON LIST A, BUT THE LIST CAN BE CHANGED.

EASIER AND QUICKER TO USE, YOU CUT OUT THE NAMES AND PICTURES AND PASTE OR TAPE THEM ON A PIECE OF PAPER IN THE ORDER YOU THINK THEY SHOULD BE.

Scissors and glue or tape available in a kit.



## WORK TIME

Students walk around the room to observe how things are arranged. (If much difficulty is observed, it is worthwhile to take a trip to the supermarket to see how things are arranged on shelves. Return upon your return.)

After students have finished reorganizing their lists, make a composite list on the chalkboard asking such questions as:

WHERE DO WE GO FIRST IN THE STORE?

WHERE DO WE START AT?

## ANTICIPATED STUDENT BEHAVIORS

Students:

--rearrange items on List A by cutting out the pictures and pasting them to a piece of paper so they are grouped in the order they might more conveniently be found at the grocery store.

--respond, "Doesn't matter," "You can start anywhere."

--respond by suggesting a section of the supermarket to begin the shopping list.

## MATERIALS

## TEACHING STRATEGIES

WHAT THINGS ON OUR LIST MIGHT WE FIND AT THAT COUNTER?

List the items on the chalkboard that you would find at this counter.

WHAT COUNTER SHOULD WE GO TO NEXT?

WHAT THINGS ON OUR LIST MIGHT WE FIND THERE?

List the items on the chalkboard that you would find at this counter.

Continue with this same strategy until all items on List A have been discussed and grouped.

Then ask:

HOW DID GROUPING THINGS IN LIST A HELP US?

WHAT WOULD HAPPEN IF THE GROCER DIDN'T GROUP THINGS?

CAN YOU THINK OF OTHER THINGS AT HOME OR AT SCHOOL THAT WE PUT IN GROUPS?

  
GIVE SEVER  
STUDENTS A C  
TO RESPON

## TEACHING STRATEGIES

OUR LIST MIGHT WE FIND AT THAT

the chalkboard that you would find at

COULD WE GO TO NEXT?

OUR LIST MIGHT WE FIND THERE?

the chalkboard that you would find at

same strategy until all items on List A  
and grouped.

  
**GIVE SEVERAL  
STUDENTS A CHANCE  
TO RESPOND**

THINGS IN LIST A HELP US?

WHEN IF THE GROCER DIDN'T GROUP

OF OTHER THINGS AT HOME OR AT  
OUT IN GROUPS?

## ANTICIPATED STUDENT BEHAVIORS

ACTIVITY 1-13

103

Students:

--suggest a special counter for a group of their  
shopping items (bread, meat, produce, etc.).

--suggest another counter to go to.

--name items from their list they might find there.

--respond, "It helped us to save time," "Saved  
steps," "Helps us find things easier," etc.

--respond, "We'd have to look and look for things,"  
"He might need more spaces," "He couldn't keep  
track of what he has in the store,"

--respond with many groups such as books in the  
library, things in our kitchen, clothes in our  
closets and drawers, art supplies, etc.

**MATERIALS**

**TEACHING STRATEGIES**

Then say:

THERE IS A PARKING LOT FULL OF CARS OUTSIDE THE SCHOOL. IF WE WANTED TO PUT THESE CARS INTO GROUPS, WHAT KIND OF GROUPS COULD WE USE?

WE HAVE SEEN THAT GROCERS AND CAR MANUFACTURERS PUT THINGS INTO GROUPS. CAN YOU THINK OF OTHER PLACES THAT GROUP THINGS?

WHY DO THEY PUT THINGS INTO GROUPS?

Distribute several copies of the white and yellow pages of the phone book and say:

LOOK AT THESE PHONE BOOKS CAREFULLY. TRY TO SEE IF YOU CAN FIGURE OUT HOW THINGS ARE GROUPED IN THE WHITE PAGES AND HOW THEY ARE GROUPED IN THE YELLOW PAGES.

Depending on how many copies are available, several students might have to look together at the same book.



DON'T ASK  
QUESTION

## THING STRATEGIES

G LOT FULL OF CARS OUTSIDE  
E WANTED TO PUT THESE CARS  
KIND OF GROUPS COULD WE USE?

GROCERS AND CAR MANUFACTURERS  
ROUPS. CAN YOU THINK OF OTHER  
THINGS?

THINGS INTO GROUPS?

ies of the white and yellow pages  
say:



NE BOOKS CAREFULLY. TRY TO  
GURE OUT HOW THINGS ARE GROUPED  
S AND HOW THEY ARE GROUPED IN

opies are available, several  
look together at the same book.

## ANTICIPATED STUDENT BEHAVIORS

Students:

--suggest makes of cars such as Ford, Dodge,  
Chevrolet, GMC, Plymouth; color; size; two-  
door, four-door; sports cars, pickups, sedans, etc.

--respond, "Drugstore," "Department stores,"  
"Service stations," etc.

--respond, "To help them find things," "So they  
know what they have," etc.

--examine phone books and try to determine the  
basis for various groupings.

DON'T ASK LEADING  
QUESTIONS

## MATERIALS

## TEACHING STRATEGIES



When the students have had ample time to examine the books ask:

HOW WERE THE THINGS LISTED IN THE WHITE PAGES GROUPED?

WHY DO YOU THINK THEY WERE GROUPED THIS WAY?

HOW WERE THE THINGS LISTED IN THE YELLOW PAGES?

WHY WERE THEY GROUPED THIS WAY?

HOW DO PEOPLE GO ABOUT DECIDING HOW TO GROUP OR SORT THINGS?

WOULD IT BE EASIER TO LEARN ABOUT THINGS IN OUR ENVIRONMENT IF THINGS WERE GROUPED?



## TEACHING STRATEGIES

## ANTICIPATED STUDENT BEHAVIORS

ACTIVITY 1-13

105

Students:



**HAVE YOU  
INVOLVED  
ALL  
STUDENTS?**

have had ample time to examine the books

THINGS LISTED IN THE WHITE PAGES

HINK THEY WERE GROUPED THIS WAY?

THINGS LISTED IN THE YELLOW

Y GROUPED THIS WAY?

E GO ABOUT DECIDING HOW TO GROUP  
GS?

EASIER TO LEARN ABOUT THINGS IN  
ENT IF THINGS WERE GROUPED?

--respond, "By the alphabet," "By the person's  
last name," "By names."

--respond, "To make it easier to find a number,"  
"So you could look something up quicker."

--respond, "By the alphabet," "By what they were,"  
"By what they did for people."

--respond, "To make it easier and quicker to find  
what you were looking for."

--conclude that items are grouped together because  
they are alike in some way.

--respond, "Yes."

ACTIVITY 1-13: "Introduction To Sorting"

Activity name suggested by class: \_\_\_\_\_ Teacher \_\_\_\_\_

BSCS USE: Post \_\_\_\_\_ Tally \_\_\_\_\_ Rev \_\_\_\_\_

Day 1 Day 2 Day 3 Day 4 Day 5 Day 6

1. Date taught (month and date, e.g. 11/2)						
2. Minutes of class time on science each day						
3. Minutes of preparation each day						
4. Students absent on each date (Use ID Number)						

5. Interest of class as expressed by apparent attention to what is happening.

Number of students responding with: Name students you noted especially:

HIGH INTEREST	_____
MODERATE INTEREST	_____
INDIFFERENCE	_____
MODERATE RESISTANCE	_____
STRONG DISLIKE	_____
HARD TO RATE	_____

6. Equipment in kit: ☐ None ☐ Satisfactory ☐ Too fragile ☐ Too complicated ☐ Difficult to use
7. Equipment I got: ☐ None ☐ Easy to get but okay ☐ Hard to get, add to kit ☐ Unobtainable, add to kit

Materials used:	Worksheet #	Game #	Slides (show slide nos.)	Transparency #	Card(s) #	Tape(s) #	Other #
Worthwhile as is							
Revise slightly							
Revise much							
Worthless: omit							

9. Maturity level is ☐ just right ☐ too childish ☐ too mature Explain:
10. Vocabulary level is ☐ just right ☐ too easy ☐ too difficult Explain:
11. Were teacher instructions clear enough to follow? ☐ Yes ☐ No - Pages and Problem:
12. Were clues to success and reviews of success helpful? ☐ Yes ☐ No - Why not?
13. Did the activity fulfill the purpose stated by the Guide? ☐ Yes ☐ No - Comment:
14. Were any parts of this activity omitted? ☐ No ☐ Yes - Explain:
15. Your rating of this activity:  
☐ Worthwhile ☐ Of value--needs the ☐ Worth salvaging--make ☐ Worthless  
 --keep as is revision suggested major changes described --drop it

	#	#	#	#	#	#	#	#	#	#	#	#	#
Worthwhile as is													
Revise slightly													
Revise much													
Worthless: omit													

9. Maturity level is ☐ just right ☐ too childish ☐ too mature Explain:
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14. Were any parts of this activity omitted? ☐ No ☐ Yes - Explain:
15. Your rating of this activity:  
☐ Worthwhile ☐ Of value--needs the ☐ Worth salvaging--make ☐ Worthless  
--keep as is revision suggested major changes described --drop it
- SPECIFIC CONCERNS ABOUT THIS ACTIVITY:

16. There are always parts of activities that are good and need not be changed.  
What parts of this activity should be retained when the curriculum is revised?  
Page(s) \_\_\_\_\_;

17. Were any students unable to arrange the items on List A into meaningful groups?  
☐ No ☐ Yes: How many? ☐ 1/4 ☐ 1/2 ☐ 3/4 ☐ All: Comment.

18. Were most students able to suggest categories for grouping other items, e.g., cars?  
☐ Yes ☐ No: Comment.

19. Concern (or questions) about content:

20. Messages for staff (read immediately):

BSCS Evaluation: EMH Feedback Form 1c

Have you answered each question, attached annotated Guide, your revisions, student work, etc.?

SIDE A

## ACTIVITY 1-13: "Introduction To Sorting"

Teacher \_\_\_\_\_

## REPORT OF WHAT HAPPENED AND SUGGESTIONS FOR REVISION

1. Whenever practical write all over your second copy of the Guide. Tear out the activity and send the annotated Guide in with this form.
2. Make specific suggestions - exactly what you think should appear in the Guide. Tell us what you did. Think of what you needed, what you had to work out for yourself, how you presented something to make it go over.
4. Describe the revisions you said were needed in answering the questions on the other side of this form.
5. As a reminder of things that help in revision, read through the following list and check off things you want to be sure to note this time. (We know you can't tell about everything every time!)

## THE LESSON

- ☐ how you organized materials or class.
- ☐ things added (a question, a picture, etc.).
- ☐ equipment, supplies, visual aids.
- ☐ things that went wrong, misunderstandings.
- ☐ what you would do differently or avoid next time.
- ☐ turmoil in the class caused by the activity, or disruptive students, or interruptions, and how you dealt with them.

## THE STUDENTS

- ☐ who had problems and what they were.
- ☐ how someone "caught on" (or who never did).
- ☐ who was really "turned off" (or on).
- ☐ reactions of parents, teachers, students.
- ☐ special evidence of learning or applying ideas.



## Me and my Environment

### OBJECTIVE FOCUS FOR THIS ACTIVITY

#### UNIT GOALS:

1. Explore his immediate environment through a variety of sensory experiences and physical contacts.
3. Create a greater interest in, and a more sensitive attitude toward, his environment.

#### CORE B OBJECTIVES:

1. Explore a variety of environmental components and examine their properties and characteristics.
2. Group things according to observable attributes, sources, or functions.

### MATERIALS

### TEACHING STRATEGIES

#### Activity 1-14. Sorting Things In Our Environment

*As a continuation of the previous activity, the students will now collect and categorize objects from their environment. They will realize that objects display many characteristics and therefore can be grouped according to different criteria. In addition, the activity will increase the students' environmental awareness.*

FOR THIS ACTIVITY

explore his immediate environment through a variety of sensory experiences and physical contacts.

develop a greater interest in, and a more sensitive attitude toward, his environment.

OBJECTIVES:

explore a variety of environmental components and examine their properties and characteristics.

group things according to observable attributes, sources, or functions.

UNIT I.

EXPLORING MY ENVIRONMENT



CORE B.

INVESTIGATING MY ENVIRONMENT

**BSCS**

ACTIVITY 1-14.

SORTING THINGS IN OUR ENVIRONMENT

**TEACHING STRATEGIES**Sorting Things In Our Environment

on of the previous activity, the students sort and categorize objects from their environment. They will realize that objects display different characteristics and therefore can be grouped according to different criteria. In addition, the activity will increase the students' environmental awareness.

**ANTICIPATED STUDENT BEHAVIORS**

At the end of this activity, each student should:

- have collected four objects from his environment that meet certain criteria.
- have participated in guessing categories used to group objects.
- be able to explain why items were grouped in a certain way.

# ACTIVITY 1-14

108

## MATERIALS

\*Sturdy paper bag (grocery bag)  
or small box for each student

\*Search cards: 3" X 5" index  
cards with the following  
written on them:

hard, soft  
will bend, will not bend  
rough, smooth  
has many colors, one color  
light, heavy  
round, square  
short, long  
thin, fat  
etc.

\*3" X 5" Index cards (about 30)

\*Not furnished in materials kit

## TEACHING STRATEGIES

### Teacher Preparation:

1. Prepare the search cards by writing one of the following words or phrases on each 3" X 5" card: hard, soft, will bend, rough, smooth, has many colors, light, flat, round, heavy, short, long, thin, fat, man-made, etc. Recall Activity 1-4 in Core A where students were given search cards to look for things in their environment. The categories listed in that activity might provide suggestions for more words or phrases to put on the cards in this activity.
2. Check with your administration to be sure it is permissible for you to take your class outside.

### Begin by saying:

YESTERDAY WE DECIDED THAT PEOPLE HAD MANY  
DIFFERENT REASONS FOR GROUPING THINGS. WHERE  
WERE SOME PLACES WE FOUND THINGS GROUPED?

TODAY WE ARE GOING TO COLLECT THINGS FROM OUR  
OUTSIDE ENVIRONMENT AND PRACTICE MAKING OUR  
OWN GROUPS.

HOW DO PEOPLE KNOW WHAT GROUP TO PUT THINGS IN?

Now divide the class into groups of three. Distribute a card that contains a category to each group. Explain that the cards must be kept secret because they will be used later in a guessing game.

## TEACHING STRATEGIES

ation:

he search cards by writing one of the words or phrases on each 3" X 5" card: it, will bend, rough, smooth, has many light, flat, round, heavy, short, long, , man-made, etc. Recall Activity 1-4 where students were given search cards for things in their environment. The es listed in that activity might pro- gestions for more words or phrases to e cards in this activity.

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g:

VE DECIDED THAT PEOPLE HAD MANY REASONS FOR GROUPING THINGS. WHERE PLACES WE FOUND THINGS GROUPED?

RE GOING TO COLLECT THINGS FROM OUR ENVIRONMENT AND PRACTICE MAKING OUR

PLE KNOW WHAT GROUP TO PUT THINGS IN?

class into groups of three. Distribute a ns a category to each group. Explain that e kept secret because they will be used ing game.

## ANTICIPATED STUDENT BEHAVIORS

Students:

--recall the previous activity and respond, "Grocery stores," "Library," "Phone books," "At home," "Closets," etc.

--respond, "They look at the way they are alike," "They're the same color, shape," "They have the same name."



## MATERIALS

## TEACHING STRATEGIES

Say:

WE ARE GOING TO WORK IN GROUPS SO WE CAN HELP EACH OTHER. EACH GROUP WILL HAVE A SECRET CARD. THE CARD WILL TELL YOU WHAT KINDS OF THINGS TO LOOK FOR. FOR EXAMPLE, IF MY CARD SAID LONG, WHAT MIGHT I COLLECT?

EACH OF THE PERSONS IN THE GROUP MUST COLLECT AT LEAST FOUR THINGS THAT CAN BE DESCRIBED BY THE WORD ON THEIR CARD. THAT MEANS THAT EACH GROUP WILL HAVE COLLECTED TWELVE OBJECTS BY THE TIME THEY RETURN TO THE CLASSROOM.

Direct the students to proceed outside and begin to collect their materials. Remind them not to show anyone outside their group what their card says. Rules for outside behavior might also need to be reviewed.

COLLECTION TIME

When the students have returned to the room, have each group display their collection of objects on a table with their card placed upside down on the table beside their display.

Now distribute about six 3" X 5" cards to each group of students. These cards will be used to record guesses.

Allow groups to circulate to each table and carefully examine each other's collection.

ENCOURAGE DISCUSSION

## TEACHING STRATEGIES

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R. EACH GROUP WILL HAVE A SECRET  
E CARD WILL TELL YOU WHAT KINDS OF  
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### COLLECTION TIME

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to circulate to each table and carefully  
ther's collection.

### ENCOURAGE DISCUSSION

## ANTICIPATED STUDENT BEHAVIORS

ACTIVITY 1-14

109

Students:

--respond, "Stick," "Twig," "Blade of grass," etc.

--place their collection on the table.

ACTIVITY 1-14

110

### MATERIALS

### TEACHING STRATEGIES

As each group comes to the tables, tell them to make a guess about why the objects were put together. They should try to match whatever criterion was on the card originally given to that group. Each group should write their guess on a new card and place it also upside down on the table. Then proceed to the next collection. (Each group should decide on one guess rather than for every student to make a separate guess.)

When the students have finished examining each collection and have made their guesses, they should return to their desks.

Focus the students' attention on one collection at a time. Ask:

IN HOW MANY WAYS ARE THESE THINGS ALIKE?

GIVE  
TIME  
TO  
THIN

GIV  
STUDEN  
TO

Then one at a time hold up the cards that were turned face down on the table containing student guesses. Ask if that word tells one way in which the things in that collection are alike. If a word selected is not descriptive of the entire collection, have a student point out why, i.e., "The word says soft and this rock is not soft," etc.

## CHING STRATEGIES

o the tables, tell them to make a  
objects were put together. They should  
criterion was on the card originally

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guesses, they should return to their

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S ARE THESE THINGS ALIKE?

**GIVE STUDENTS  
TIME  
TO  
THINK**



**GIVE SEVERAL  
STUDENTS A CHANCE  
TO RESPOND**



old up the cards that were turned face  
ntaining student guesses. Ask if that  
n which the things in that collection  
d selected is not descriptive of the  
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nd this rock is not soft," etc.

## ANTICIPATED STUDENT BEHAVIORS

Students:

- guess the criteria used in collecting objects and write the guesses on blank cards.
- place the cards containing their guesses upside down on the table beside the appropriate collection.

- describe similarities of the various objects.

## MATERIALS

## TEACHING STRATEGIES

Always allow the group who used the word the opportunity to explain why they chose it.

Continue questioning until the criteria for grouping are correctly identified. Encourage students to question and challenge the placement of objects into various groups.

After discussing each guess, ask:

COULD THESE ITEMS BE GROUPED ANY OTHER WAY?

After sufficient discussion time, culminate the activity by asking:

IS THERE ALWAYS A BEST WAY TO PUT YOUR OBJECTS INTO GROUPS?

THERE ARE MANY WAYS THAT DIFFERENT OBJECTS CAN BE GROUPED, DEPENDING ON THE REASON FOR GROUPING THEM. FOR EXAMPLE, WHY WOULD IT NOT BE A GOOD IDEA FOR A DEPARTMENT STORE TO GROUP OBJECTS BY COLOR?

IN OUR NEXT ACTIVITY WE WILL FIND ANOTHER WAY WE CAN GROUP THINGS.

If time allows and interest warrants, students can use these cards again to try to regroup the objects they have collected.

## CHING STRATEGIES

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## ANTICIPATED STUDENT BEHAVIORS

ACTIVITY 1-14

(111)

Students:

--determine whether or not chosen words are  
descriptive of the collection.

--suggest dividing the group of objects into  
metal-nonmetal, hard-soft, light-heavy, etc.

--respond, "no."

--respond, "You wouldn't know where to find things,"  
"Some things come in many colors," etc.

UNIT 1, LESSON 1  
ACTIVITY 1-14: "Sorting Things In Our Environment"

Activity name suggested by class: \_\_\_\_\_

Teacher

	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6
Date taught (month and date, e.g. 11/2)						
Minutes of class time on science each day						
Minutes of preparation each day						
Students absent on each date (Use ID Number)						

BSCS USE: Post \_\_\_\_\_ Tally \_\_\_\_\_ Rev \_\_\_\_\_

	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6
1. Date taught (month and date, e.g. 11/2)						
2. Minutes of class time on science each day						
3. Minutes of preparation each day						
4. Students absent on each date (Use ID Number)						

5. Interest of class as expressed by apparent attention to what is happening.

Number of students responding with: \_\_\_\_\_ Name students you noted especially: \_\_\_\_\_  
(Number)

HIGH INTEREST						
MODERATE INTEREST						
INDIFFERENCE						
MODERATE RESISTANCE						
STRONG DISLIKE						
HARD TO RATE						

6. Equipment in kit: ☐ None needed ☐ Satisfactory ☐ Too fragile ☐ Too complicated ☐ Difficult to use
7. Equipment I got: ☐ None needed ☐ Easy to get ☐ Hard to get, but okay ☐ Hard to get, add to kit ☐ Unobtainable, add to kit

8. Materials used:

	Worksheet #	Game #	Slides (show slide nos.)	Transparency #	Card(s) #	Tape(s) #	Other #
Worthwhile as is							
Revise slightly							
Revise much							
Worthless: omit							

9. Maturity level is ☐ just right ☐ too childish ☐ too mature Explain: \_\_\_\_\_
10. Vocabulary level is ☐ just right ☐ too easy ☐ too difficult Explain: \_\_\_\_\_
11. Were teacher instructions clear enough to follow? ☐ Yes ☐ No - Pages and Problem: \_\_\_\_\_
12. Were clues to success and reviews of success helpful? ☐ Yes ☐ No - Why not? \_\_\_\_\_
13. Did the activity fulfill the purpose stated by the Guide? ☐ Yes ☐ No - Comment: \_\_\_\_\_
14. Were any parts of this activity omitted? ☐ No ☐ Yes - Explain: \_\_\_\_\_
15. Your rating of this activity: ☐ Worthwhile ☐ Of value needs the subject

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
Worthwhile as is																														
Revise slightly																														
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15. Your rating of this activity:  
☐ Worthwhile ☐ Of value--needs the ☐ Worth salvaging--make ☐ Worthless  
--keep as is revision suggested major changes described --drop it  
-----
- SPECIFIC CONCERNS ABOUT THIS ACTIVITY:

16. There are always parts of activities that are good and need not be changed.  
What parts of this activity should be retained when the curriculum is revised?  
Page(s) \_\_\_\_\_:

17. Did you add search card categories which were effective (other than the ones listed)?  
☐ No ☐ Yes: If so, name them.

18. Did any groups have difficulty finding enough items that fit their search card?  
☐ No ☐ Yes: Which categories?

19. Were most groups of students able to guess categories of the items exhibited on the tables? ☐ Yes ☐ No: Comment.

20. Concern (or questions) about content:

21. Messages for staff (read immediately):

BSCS Evaluation: EMH Feedback Form 1c

Have you answered each question, attached annotated Guide, your revisions, student work, etc.?

SIDE A



UNIT I, CORE B  
ACTIVITY 1-14: "Sorting Things In Our Environment"

Teacher \_\_\_\_\_

## REPORT OF WHAT HAPPENED AND SUGGESTIONS FOR REVISION

1. Whenever practical write all over your second copy of the Guide. Tear out the activity and send the annotated Guide in with this form.
2. Make specific suggestions - exactly what you think should appear in the Guide.
3. Tell us what you did. Think of what you needed, what you had to work out for yourself, how you presented something to make it go over.
4. Describe the revisions you said were needed in answering the questions on the other side of this form.
5. As a reminder of things that help in revision, read through the following list and check off things you want to be sure to note this time. (We know you can't wait about everything every time!)

## THE LESSON

- ☐ how you organized materials or class.
- ☐ things added (a question, a picture, etc.).
- ☐ equipment, supplies, visual aids.
- ☐ things that went wrong, misunderstandings.
- ☐ what you would do differently or avoid next time.

- ☐ turmoil in the class caused by the activity, or disruptive students, or interruptions, and how you dealt with them.

## THE STUDENTS

- ☐ who had problems and what they were.
- ☐ how someone "caught on" (or who never did).
- ☐ who was really "turned off" (or on).
- ☐ reactions of parents, teachers, students.
- ☐ special evidence of learning or applying ideas.



## Me and my Environment

### OBJECTIVE FOCUS FOR THIS ACTIVITY

#### UNIT GOALS:

1. Explore his immediate environment through a variety of sensory experiences and physical contacts.
2. Recognize the environmental components essential for all living things.

#### CORE B OBJECTIVES:

2. Group things according to observable attributes, sources, or functions.
4. Determine new relationships he has with his environment.

### MATERIALS

### TEACHING STRATEGIES

#### Activity 1-15. Categorizing In Terms Of Living-Nonliving

*In this activity students will categorize their collections according to the source from which they originated. In so doing they will distinguish between living and nonliving components of their environment and also determine that grouping systems may change as new knowledge is acquired.*

THIS ACTIVITY

re his immediate environment through  
 iety of sensory experiences and  
 cal contacts.

nize the environmental components  
 ial for all living things.

VES:

things according to observable  
 utes, sources, or functions.

mine new relationships he has with  
 nvironment.

UNIT I.

EXPLORING MY ENVIRONMENT



CORE B.

INVESTIGATING MY  
 ENVIRONMENT

**BSCS**

ACTIVITY 1-15.

CATEGORIZING IN TERMS OF  
 LIVING-NONLIVING

TEACHING STRATEGIESCategorizing In Terms Of Living-Nonliving

Students will categorize their collec-  
 the source from which they originated.  
 ll distinguish between living and  
 s of their environment and also  
 ping systems may change as new know-

ANTICIPATED STUDENT BEHAVIORS

At the end of this activity, each student should:

- have participated in grouping objects according to their sources: (Plants -- living, nonliving; Animals -- living, nonliving; Things that never lived.)
- have observed the mercury amoeba demonstration.
- have decided whether the object in the demonstration was living or nonliving.
- have concluded that it helps to know about an object before you try to place it in a group.
- have associated certain traits with living things.
- have learned the meaning of nonliving.

ACTIVITY 1-15

(114)

MATERIALS

- \*3 Strips of paper or cards for labeling tables (any size will do)
- \*Overhead projector
- Petri dish (top or bottom half)
- 10% Solution of nitric acid
- Small amount of mercury
- Small spatula
- Medicine dropper
- Potassium dichromate (crystal form)

\*Not furnished in materials kit

TEACHING STRATEGIES

Teacher Preparation:

1. Prepare three labels and place them on different tables in the classroom. The labels should read as follows:  
  
From Things That Never Lived, From Plants (living and nonliving), From Animals (living and nonliving).
2. Set up the mercury amoeba demonstration as directed prior to the beginning of the second portion of this activity. Try it to become familiar with the equipment and procedure.

Begin by asking:

HOW DID WE GROUP OUR COLLECTION OF OBJECTS YESTERDAY?

TODAY WE'RE GOING TO GROUP THEM ACCORDING TO WHERE THEY CAME FROM.

YOU WILL NOTICE THAT I HAVE PUT SOME LABELS ON THESE TABLES.

Choose a student to read the labels. After each label is read, ask the appropriate questions:

HAS A ROCK EVER LIVED?

WHAT ARE SOME OTHER THINGS THAT HAVE NEVER LIVED?

WHERE DOES PAPER COME FROM?

IS A TREE A PLANT?

## TEACHING STRATEGIES

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Three labels and place them on different  
the classroom. The labels should read  
s:

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Try it to become familiar with the equip-  
procedure.

GROUP OUR COLLECTION OF OBJECTS

E GOING TO GROUP THEM ACCORDING TO  
CAME FROM.

OTICE THAT I HAVE PUT SOME LABELS  
ABLES.

t to read the labels. After each label is  
appropriate questions:

EVER LIVED?

OME OTHER THINGS THAT HAVE NEVER LIVED?

PAPER COME FROM?

A PLANT?

## ANTICIPATED STUDENT BEHAVIORS

Students:

--recall the previous activity and respond, "By  
how they looked," "By how they felt," etc.

--respond, "No."

--respond, "Scissors," "Wastebasket," "Cans," etc.

--respond, "Trees."

--respond, "Yes."

## MATERIALS

## TEACHING STRATEGIES

WHAT ARE SOME OTHER THINGS THAT CAN COME FROM PLANTS?

ARE PLANTS LIVING THINGS?

After each response, have the student tell you if that object is living or nonliving.

WHAT ARE SOME THINGS THAT COME FROM ANIMALS?

ARE ANIMALS LIVING THINGS?

WHAT ARE SOME DIFFERENCES BETWEEN THINGS THAT WERE ONCE LIVING BUT ARE NOW DEAD AND THINGS THAT NEVER LIVED?

WHAT DO LIVING THINGS DO THAT NONLIVING THINGS CANNOT DO? or WHAT WOULD YOU LOOK FOR TO TELL IF SOMETHING IS ALIVE?

Probe with questions until students name at least grow, eat, and move. List these traits on the chalkboard as they are given. If reproduction has not been identified as a characteristic of living things, ask:

WHERE DO LIVING THINGS COME FROM?

WHERE DO BABY LIVING THINGS COME FROM?

WHERE DO NONLIVING THINGS COME FROM?

## TEACHING STRATEGIES

OTHER THINGS THAT CAN COME FROM

IVING THINGS?

e, have the student tell you if that  
r nonliving.

THINGS THAT COME FROM ANIMALS?

IVING THINGS?

DIFFERENCES BETWEEN THINGS THAT  
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f reproduction has not been identified  
c of living things, ask:

NG THINGS COME FROM?

LIVING THINGS COME FROM?

LIVING THINGS COME FROM?

## ANTICIPATED STUDENT BEHAVIORS

ACTIVITY 1-15

115

Students:

--respond, "Pencils," "Tables," "Twigs,"  
"String," etc.

--respond, "Yes."

--respond, "Meat," "Shoes," "Leather goods," "Some  
clothes."

--respond, "Yes."

--respond, "Only living things can die," "Nonliving  
things have never been alive," "Do not come from  
plants or animals."

--identify traits such as move by themselves, grow,  
breathe, eliminate wastes, die, eat, etc.

--respond. "Babies," "Little living things," "Other  
living things."

--respond, "Their parents," "Other things," "Other  
living things."

--respond, "They're made in factories," "They're  
built."

ACTIVITY 1-15

116

### MATERIALS

### TEACHING STRATEGIES

DO NONLIVING THINGS HAVE BABIES?

Now allow the students to place the items their group collected the previous day on the appropriate tables according to where they came from.

When they have finished ask:

WAS IT EASY TO TELL WHICH THINGS HAVE NEVER LIVED?

WHAT THINGS DO WE HAVE ON OUR TABLE THAT ARE LABELED NEVER LIVED?

Encourage students to agree and disagree with the group made, stating their reasons for disagreement. If the class agrees an object should be changed to another group move it to the appropriate table.

Continue with the above strategy for each category, allowing students to make decisions.

Then ask:

IS IT ALWAYS EASY TO TELL LIVING THINGS FROM NONLIVING THINGS?



## TEACHING STRATEGIES

THINGS HAVE BABIES?

Students to place the items their group  
previous day on the appropriate tables  
they came from.

inished ask:

TO TELL WHICH THINGS HAVE NEVER

DO WE HAVE ON OUR TABLE THAT ARE  
OR LIVED?

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their reasons for disagreement. If the  
object should be changed to another group,  
appropriate table.

above strategy for each category, allow-  
make decisions.

EASY TO TELL LIVING THINGS FROM  
INGS?

## ANTICIPATED STUDENT BEHAVIORS

Students:

--respond, "No."



**WORK  
TIME**

--respond, "Yes," "No," "Sometimes,"

--name the items so placed.

**ASK FOR  
OTHER IDEAS**

--respond with their various opinions.

## MATERIALS

## TEACHING STRATEGIES

I AM GOING TO SHOW YOU SOMETHING NOW THAT YOU WILL NEED TO WATCH VERY CAREFULLY.

Proceed with the following demonstration:

NOTE: It is imperative that everything be set up ahead of time, and that you rehearse the demonstration before giving it in class. Caution must be used when handling these chemicals.

Since a small amount of mercury vaporizes in the acid, be sure that you have adequate ventilation. With a little care, however, the demonstration can be handled very safely. The demonstration should be projected on a screen or wall with an overhead projector.

Use the nitric acid solution in the kit or make up your own by pouring 1 part concentrated nitric acid into 10 parts of water. Do not pour the water into the acid, for it may spatter on you. Take care not to spill any of the acid solution. If by accident you do, thoroughly wash the area of contact with water.

Begin the demonstration by placing the petri dish on the overhead and saying:

I'M GOING TO PUT SOME LIQUID IN THIS DISH.

Pour a quarter of an inch of dilute nitric acid in the petri dish. Do not tell the students what the liquid is.

WATCH WHILE I ADD SOMETHING TO THE DISH.

Without allowing the students to see the mercury, use the medicine dropper to place a droplet of mercury into the acid in the petri dish.

NOW I'M ADDING SOMETHING ELSE TO THE DISH. I'M GOING TO CALL IT FOOD.

## TEACHING STRATEGIES

SHOW YOU SOMETHING NOW THAT YOU  
WATCH VERY CAREFULLY.

Following demonstration:

Make sure that everything be set up ahead  
of time that you rehearse the demonstration  
before doing it in class. Caution must be used  
when using these chemicals.

When mercury vaporizes in the acid, be  
sure to have adequate ventilation. With a little  
preparation the demonstration can be handled very safely.  
The demonstration should be projected on a screen or wall  
projector.

Use the solution in the kit or make up your own  
by diluting concentrated nitric acid into 10 parts  
of water. Pour the water into the acid, for it may  
be dangerous to take care not to spill any of the acid.  
In case of an accident you do, thoroughly wash the area  
with water.

Preparation by placing the petri dish on the  
table:

PUT SOME LIQUID IN THIS DISH.

Fill an inch of dilute nitric acid in the  
dish and tell the students what the liquid is.

ADD SOMETHING TO THE DISH.

Ask the students to see the mercury, use the  
dropper to place a droplet of mercury into the  
dish.

ASK SOMETHING ELSE TO THE DISH. I'M  
NOT EATING IT FOOD.

## ANTICIPATED STUDENT BEHAVIORS

ACTIVITY 1-15

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ACTIVITY 1-15

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### MATERIALS

### TEACHING STRATEGIES

Sprinkle a few crystals of potassium dichromate around the mercury droplet(s). The mercury will start to move, split into two or three droplets, and give off a black residue as a result of the reaction. The disappearance of the orange potassium dichromate and the appearance of the black mercuric oxide give the illusion of something being eaten and something given off as waste.

Then ask:

FROM WHAT YOU HAVE JUST SEEN, DO YOU THINK THIS IS LIVING OR NONLIVING?

WHY DO YOU THINK IT IS LIVING (OR NONLIVING)?

Allow ample time for discussion of this problem. Student will probably decide it is living because it eats (the potassium dichromate crystals disappearing), moves, splits (reproduces), gives off wastes (the black residue), etc. Discuss these traits as indications of life by referring to the list you developed earlier.

GIV  
STUDE  
TO

## TEACHING STRATEGIES

crystals of potassium dichromate around  
it(s). The mercury will start to move,  
three droplets, and give off a black  
residue of the reaction. The disappearance  
of potassium dichromate and the appearance of  
mercury oxide give the illusion of something  
being given off as waste.

HAVE JUST SEEN, DO YOU THINK IT'S  
NONLIVING?

DO YOU THINK IT IS LIVING (OR NONLIVING)?


For discussion of this problem. Students  
decide if it is living because it eats (the  
white crystals disappearing), moves, splits  
and gives off wastes (the black residue), etc.  
Use these as indications of life by referring  
to concepts developed earlier.

## ANTICIPATED STUDENT BEHAVIORS

Students:

--guess either category.

--associate the image observed with characteristics  
of living things that have been listed previously  
on the chalkboard and infer that it is living or  
nonliving.

  
**GIVE SEVERAL  
STUDENTS A CHANCE  
TO RESPOND**

**DON'T ASK LEADING  
QUESTIONS**  


## MATERIALS

## TEACHING STRATEGIES

After ample discussion say:

TOMORROW I AM GOING TO TELL YOU WHAT I PUT IN THE LIQUID. I WANT YOU TO THINK ABOUT WHAT YOU HAVE SEEN AND TRY TO DECIDE IF IT WAS LIVING OR NONLIVING. THINK ABOUT HOW YOU COULD FIND OUT FOR SURE.

NOTE: Directions for disposal of demonstration materials are given at the end of this activity.

The next day ask:

WHAT HAVE YOU DECIDED ABOUT THE THING YOU SAW YESTERDAY? HOW MANY OF YOU DECIDED THAT IT WAS LIVING? WHY?

HOW MANY OF YOU DECIDED THAT IT WAS NONLIVING? WHY?

WATCH WHILE I DO THE DEMONSTRATION AGAIN. THE LIQUID IN THE DISH IS NOT WATER. IT IS SOMETHING CALLED ACID. THE LITTLE THING I PUT IN THE DISH IS A DROP OF MERCURY. MERCURY IS A LIQUID METAL, THE SAME STUFF THAT YOU FIND IN MANY THERMOMETERS. THE STUFF I CALLED FOOD IS A CHEMICAL CALLED POTASSIUM DICHROMATE. IT IS A POISON.

Repeat the demonstration. Allow the students to look at the demonstration setup.

OBSERVATION

## TEACHING STRATEGIES

on se--:

ING TO TELL YOU WHAT I PUT IN  
WANT YOU TO THINK ABOUT WHAT YOU  
RY TO DECIDE IF IT WAS LIVING  
HINK ABOUT HOW YOU COULD FIND

disposal of demonstration materials  
the end of this activity.

ECIDED ABOUT THE THING YOU SAW  
MANY OF YOU DECIDED THAT IT  
??

DECIDED THAT IT WAS NONLIVING?

O THE DEMONSTRATION AGAIN. THE  
ISH IS NOT WATER. IT IS SOME-  
ID. THE LITTLE THING I PUT IN  
ROP OF MERCURY. MERCURY IS A  
HE SAME STUFF THAT YOU FIND IN  
RS. THE STUFF I CALLED FOOD IS  
ED POTASSIUM DICHROMATE. IT IS

tion. Allow the students to look at  
tup.

OBSERVATION TIME

## ANTICIPATED STUDENT BEHAVIORS

ACTIVITY 1-15

(119)

Students:

--raise hands and indicate the properties of movement,  
seeming reproduction, feeding, and growing that  
relate to life.

--raise hands and indicate reasons for determining  
that the object was nonliving.

--observe actual materials used.

ACTIVITY 1-15

120

## MATERIALS

## TEACHING STRATEGIES

DO YOU THINK THAT THE DROP OF MERCURY WAS REALLY LIVING?

Many of the students are likely to think that the mercury was living when placed in contact with the acid and potassium dichromate. If so, explain again what the actual materials are.

Repeat the earlier questions:

IS IT EASY TO TELL IF SOMETHING IS LIVING OR NONLIVING?

CAN OUR SENSE OF SIGHT BE FOOLED?

HERE IS A CARD WITH "MERCURY" PRINTED ON IT. WHICH ONE OF OUR TABLES WOULD YOU PUT IT ON?

Direct a student to do so.

BEFORE WE KNEW WHAT THE OBJECT IN THE DEMONSTRATION WAS, WHERE WOULD WE HAVE GROUPED IT?

AFTER WE KNEW WHAT THE OBJECT WAS, AND WHAT IT WAS MADE OF, WHERE DID WE GROUP IT?

WHAT DO WE HAVE TO KNOW BEFORE WE CAN GROUP THINGS CORRECTLY?

SHOULD YOU BELIEVE EVERYTHING YOU SEE?



## TEACHING STRATEGIES

THE DROP OF MERCURY WAS

likely to think that the mercury  
contact with the acid and  
so, explain again what the actual

ions:

IF SOMETHING IS LIVING OR

NOT BE FOOLED?

"MERCURY" PRINTED ON IT.  
WHERE WOULD YOU PUT IT ON?

THE OBJECT IN THE  
WHERE WOULD WE HAVE

THE OBJECT WAS, AND WHAT  
DID WE GROUP IT?

NOW BEFORE WE CAN GROUP

EVERYTHING YOU SEE?

## ANTICIPATED STUDENT BEHAVIORS

Students:

--infer that it is not living at all.

--indicate that because things are not always what  
they seem to be it is not always easy to tell if  
something is living or nonliving.

--respond, "Yes."

--respond, "On the 'never lived' table."

--respond, "On the animal table."

--respond, "On the 'never lived' table."

--conclude that you need to know what an object is  
made of, what it is, what it does, etc., before  
you can correctly place it in a group.

--conclude that seeing may not be believing and  
that one should question beyond sight alone.

## MATERIALS

## TEACHING STRATEGIES

**CAUTION:** When you have completed your demonstration, slowly and carefully run water into the petri dish to flush out the acid and dichromate. The mercury will remain in the bottom because of its weight. Pour off the water and place the mercury in a vial, close it tightly, and store it for future use. You can clear off excess dichromate by running the mercury over paper towels several times. **DO NOT CONTAMINATE THE ENVIRONMENT!**

## STRATEGIES

pleted your demonstration,  
lly run water into the petri  
the acid and dichromate.  
remain in the bottom because  
our off the water and place  
rial, close it tightly, and  
re use. You can clear off  
by running the mercury over  
ral times. DO NOT CONTAMINATE

## ANTICIPATED STUDENT BEHAVIORS

ACTIVITY 1-15

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# ACTIVITY 1-15: "Categorizing in terms of living-nonliving"

Activity name suggested by class: \_\_\_\_\_

Teacher \_\_\_\_\_

BSCS USE: Post \_\_\_\_\_ Tally \_\_\_\_\_ Rev \_\_\_\_\_

Day 1 Day 2 Day 3 Day 4 Day 5 Day 6

1. Date taught (month and date, e.g. 11/2)						
2. Minutes of class time on science each day						
3. Minutes of preparation each day						
4. Students absent on each date (Use ID Number)						

5. Interest of class as expressed by apparent attention to what is happening.

Number of students responding with: Name students you noted especially: \_\_\_\_\_

HIGH INTEREST \_\_\_\_\_

MODERATE INTEREST \_\_\_\_\_

INDIFFERENCE \_\_\_\_\_

MODERATE RESISTANCE \_\_\_\_\_

STRONG DISLIKE \_\_\_\_\_

HARD TO RATE \_\_\_\_\_

6. Equipment in kit: ☐ None ☐ Satisfactory ☐ Too fragile ☐ Too complicated ☐ Difficult to use

7. Equipment I got: ☐ Easy to get ☐ Hard to get, but okay ☐ Hard to get, add to kit ☐ Unobtainable, add to kit

8. Materials used:

Worksheet #	Game #	Slides (show slide nos.)	Transparency #	Card(s) #	Tape(s) #	Other #
Worth as is						
Revise slightly						
Revise much						
Worthless: omit						

9. Maturity level is ☐ just right ☐ too childish ☐ too mature Explain:

10. Vocabulary level is ☐ just right ☐ too easy ☐ too difficult Explain:

11. Were teacher instructions clear enough to follow? ☐ Yes ☐ No - Pages and Problems:

12. Were clues to success and reviews of success helpful? ☐ Yes ☐ No - Why not?

13. Did the activity fulfill the purpose stated by the Guide? ☐ Yes ☐ No - Comment:

14. Were any parts of this activity omitted? ☐ No ☐ Yes - Explain:

[illegible]

9. Maturity level is ☐ just right ☐ too childish ☐ too mature Explain:
  10. Vocabulary level is ☐ just right ☐ too easy ☐ too difficult Explain:
  11. Were teacher instructions clear enough to follow? ☐ Yes ☐ No - Pages and Problems:
  12. Were clues to success and reviews of success helpful? ☐ Yes ☐ No - Why not?
  13. Did the activity fulfill the purpose stated by the Guide? ☐ Yes ☐ No - Comment:
  14. Were any parts of this activity omitted? ☐ No ☐ Yes - Explain:
  15. Your rating of this activity:  
☐ Worthwhile ☐ Of value--needs the ☐ Worth salvaging--make ☐ Worthless  
--keep as is revision suggested major changes described --drop it
- SPECIFIC CONCERNS ABOUT THIS ACTIVITY:
16. There are always parts of activities that are good and need not be changed.  
What parts of this activity should be retained when the curriculum is revised?  
Page(s) \_\_\_\_\_;
  17. Did students have difficulty categorizing any of the items they had collected as living or nonliving?  
☐ No ☐ Yes: What items?
  18. After the first mercury demonstration, did any students think that the "stuff" was not alive?  
☐ NO ☐ Yes: Who?
  19. Concern (or questions) about content:
  20. Messages for staff (read immediately):

Have you answered each question, attached annotated Guide, your revisions, student work, etc.?

# UNIT I, CORE B

## ACTIVITY 1-15: "Categorizing In Terms of Living-Nonliving"

Teacher \_\_\_\_\_

### REPORT OF WHAT HAPPENED AND SUGGESTIONS FOR REVISION

1. Whenever practical write all over your second copy of the Guide. Tear out the activity and send the annotated Guide in with this form.
2. Make specific suggestions - exactly what you think should appear in the Guide.
3. Tell us what you did. Think of what you needed, what you had to work out for yourself, how you presented something to make it go over.
4. Describe the revisions you said were needed in answering the questions on the other side of this form.
5. As a reminder of things that help in revision, read through the following list and check off things you want to be sure to note this time. (We know you can't tell about everything every time!)

#### THE LESSON

- ☐ how you organized materials or class.
- ☐ things added (a question, a picture, etc.).
- ☐ equipment, supplies, visual aids.
- ☐ things that went wrong, misunderstandings.
- ☐ what you would do differently
  - or avoid next time.
- ☐ turmoil in the class caused by the activity, or disruptive students, or interruptions, and how you dealt with them.

#### THE STUDENTS

- ☐ who had problems and what they were.
- ☐ how someone "caught on" (or who never did).
- ☐ who was really "turned off" (or on).
- ☐ reactions of parents, teachers, students.
- ☐ special evidence of learning or applying ideas.



## Me and my Environment

### OBJECTIVE FOCUS FOR THIS ACTIVITY

#### UNIT GOALS:

1. Explore his immediate environment through a variety of sensory experiences and physical contacts.

#### CORE B OBJECTIVES:

1. Explore a variety of environmental components and examine their properties and characteristics.
2. Group things according to observable attributes, sources, or functions.

### MATERIALS

4 Decks of *Environmental Rummy*  
1 Spinner card containing two wheels

### TEACHING STRATEGIES

#### Activity 1-16. Forming Categories

*This activity provides further practice in forming categories. It will also demonstrate that grouping is an arbitrary activity practiced by people and that the same items can be placed in a number of different categories. It also serves as an evaluation of the understanding your students have of grouping.*

#### Teacher Preparation:

Play this game with another staff member or family member before presenting it to the students. This will prepare you for the questions the students may ask:

Begin by saying:

WHAT DOES ENVIRONMENT MEAN?

THIS ACTIVITY

ore his immediate environment through  
riety of sensory experiences and  
ical contacts.

IVES:

ore a variety of environmental  
ponents and examine their properties  
characteristics.

p things according to observable  
tributes, sources, or functions.

TEACHING STRATEGIES

Forming Categories

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placed in a number of different cate-  
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ents have of grouping.

on:

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W/IRONMENT MEAN?

UNIT I.

EXPLORING MY ENVIRONMENT

CORE B.

INVESTIGATING MY  
ENVIRONMENT

ACTIVITY 1-16. FORMING CATEGORIES



**BSCS**

ANTICIPATED STUDENT BEHAVIORS

*At the end of this activity, each student should:*

- have played Environmental Rummy.
- have concluded that the same environmental components may be placed in different categories.

Students:

- recall and respond, "Things around us."



ACTIVITY 1-16

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## MATERIALS

## TEACHING STRATEGIES

TODAY WE ARE GOING TO PLAY A GAME CALLED ENVIRONMENTAL RUMMY. WHAT IS RUMMY?

HOW MANY OF YOU HAVE EVER PLAYED RUMMY?

ENVIRONMENTAL RUMMY IS SIMILAR TO THE RUMMY CARD GAME SOME OF YOU ALREADY KNOW HOW TO PLAY. I WILL EXPLAIN THE RULES AND THEN PLAY THE GAME WITH TWO OF YOU TO SHOW THE REST OF THE CLASS HOW IT SHOULD BE PLAYED. THEN WE WILL ALL PLAY THE GAME.

BEFORE WE BEGIN LET'S TAKE A LOOK AT THE SPINNING WHEELS.

It is important that students can read and know the meaning of each word. Therefore, write each word on the chalkboard, one at a time, and ask:

WHAT DOES THIS WORD SAY?

WHAT DOES THIS WORD MEAN?

WHAT ARE SOME THINGS THAT WE MIGHT PUT IN THAT GROUP?

If the students do not know how to read a particular word or know its meaning, tell them, and proceed to naming objects that fit the group.

When the students have talked about each group, you may want to have them read the words a second or third time, skipping quickly from word to word asking, "WHAT DOES THIS SAY?"

When you have finished reviewing the words, allow the students to take turns spinning the two wheels and reading

## THING STRATEGIES

NG TO PLAY A GAME CALLED  
MMY. WHAT IS RUMMY?

HAVE EVER PLAYED RUMMY?

MMY IS SIMILAR TO THE RUMMY  
F YOU ALREADY KNOW HOW TO  
PLAIN THE RULES AND THEN  
TH TWO OF YOU TO SHOW THE  
S HOW IT SHOULD BE PLAYED.  
PLAY THE GAME.

LET'S TAKE A LOOK AT THE

students can read and know the meaning  
fore, write each word on the chalk-  
and ask:

ORD SAY?

ORD MEAN?

INGS THAT WE MIGHT PUT IN THAT

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word to word asking, "WHAT DOES

d reviewing the words, allow the  
s spinning the two wheels and reading

## ANTICIPATED STUDENT BEHAVIORS

Students:

--respond, "A card game," "I don't know."

--raise hands.

--read the word that has been written on the  
chalkboard.

--define the word in their own terminology.

--list some items that could be logically placed  
in that group.

## MATERIALS

## TEACHING STRATEGIES

the two groups the arrows point to, i.e., Mary spins the two wheels, then reports, "I got clothing and senses," etc.

After the students have practiced spinning the wheel and reading the groups say:

THIS GAME ALSO HAS MANY PICTURE CARDS.

Hold up the cards one at a time and have students identify the picture on each card.

WE CAN PLAY WITH TWO THREE, OR FOUR PLAYERS IN A GROUP.

EACH PLAYER WILL BE DEALT EIGHT CARDS TO START WITH.

THE REST OF THE CARDS ARE PLACED FACE DOWN IN THE MIDDLE OF THE TABLE AND THE TOP CARD ON THAT PILE IS TURNED FACE UP BESIDE THE OTHERS.

Demonstrate by dealing eight cards to yourself and to each of the two or three student players, leaving the remaining portion of the deck upside down on the table. Then turn the top card up.

Now choose a student to spin the two wheels and read aloud the word that each spinner points to, i.e. animals on one and shelter on the other.

Then say:

THE SPINNERS POINT TO (animals and shelter).

## ING STRATEGIES

s point to, i.e., Mary spins the  
,"I got clothing and senses," etc.

practiced spinning the wheel and

MANY PICTURE CARDS.

a time and have students identify

FO, THREE, OR FOUR PLAYERS

DEALT EIGHT CARDS TO START

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TABLE AND THE TOP CARD ON  
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de down on the table. Then turn

spin the two wheels and read aloud  
er points to, i.e. animals on one

FO (animals and shelter).

## ANTICIPATED STUDENT BEHAVIORS

ACTIVITY 1-16

(125)

Students:

--take turns spinning the wheels and reading  
the groups.

--observe and listen to the teacher demonstrate how  
the game is played.

ACTIVITY 1-16

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## MATERIALS

## TEACHING STRATEGIES

BEFORE I PLAY I WILL DRAW THE TOP CARD FROM THE DECK OR I WILL TAKE THE CARD THAT IS FACE UP BESIDE THE DECK, WHICHEVER I THINK WILL BE MOST HELPFUL TO ME.

(Draw a card and demonstrate.)

NOW I MUST LOOK AT THE CARDS I HAVE IN MY HAND TO SEE IF I HAVE THREE OR MORE CARDS THAT WILL FIT ONE OF THE GROUPS THE SPINNERS POINTED TO.

IF I DO, I'LL PUT THEM FACE UP ON THE TABLE HERE IN FRONT OF ME. THE ONLY TIME I CAN LAY CARDS DOWN IS WHEN IT'S MY TURN TO PLAY.

NOW LOOK AT THE CARDS YOU HAVE IN YOUR HAND. IF YOU HAVE THREE CARDS THAT FIT EITHER GROUP, PLACE THEM ON THE TABLE FACE UP. IF NOT, SHOW YOUR CARDS AND POINT OUT WHY YOU CAN'T LAY ANY CARDS DOWN. THEN SAY:

NOW I MUST DISCARD, OR PUT ONE CARD BACK ON THE FACE UP PILE. (Demonstrate.) THAT MEANS MY TURN IS OVER AND THE NEXT PERSON GETS TO DRAW A CARD AND SEE IF HE CAN LAY ANY DOWN FROM ONE OF THOSE GROUPS.

ONCE YOU HAVE LAID DOWN THREE OR MORE CARDS IN A GROUP, YOU CAN ADD TO THAT GROUP WHEN IT IS YOUR TURN AND YOU HAVE ANOTHER CARD THAT FITS THAT GROUP. FOR INSTANCE, ON YOUR FIRST TURN SUPPOSE YOU LAY DOWN CHEESE, CARROT, AND BREAD IN THE GROUP "FOOD." YOU THEN DRAW BACON. ON YOUR NEXT TURN, YOU CAN REMOVE BACON FROM YOUR HAND AND ADD IT TO YOUR FOOD GROUP.

## TEACHING STRATEGIES

I WILL DRAW THE TOP CARD FROM  
WILL TAKE THE CARD THAT IS FACE  
DECK, WHICHEVER I THINK WILL  
FUL TO ME.

(Demonstrate.)

LOOK AT THE CARDS I HAVE IN MY HAND  
HAVE THREE OR MORE CARDS THAT WILL  
THE GROUPS THE SPINNERS POINTED TO.

PUT THEM FACE UP ON THE TABLE  
OF ME. THE ONLY TIME I CAN LAY  
WHEN IT'S MY TURN TO PLAY.

THE CARDS YOU HAVE IN YOUR HAND.  
THREE CARDS THAT FIT EITHER GROUP,  
THE TABLE FACE UP. IF NOT, SHOW  
AND POINT OUT WHY YOU CAN'T LAY ANY  
THEN SAY:

DISCARD, OR PUT ONE CARD BACK ON  
PILE. (Demonstrate.) THAT MEANS  
OVER AND THE NEXT PERSON GETS TO  
AND SEE IF HE CAN LAY ANY DOWN  
THOSE GROUPS.

THE LAID DOWN THREE OR MORE CARDS  
YOU CAN ADD TO THAT GROUP WHEN  
TURN AND YOU HAVE ANOTHER CARD  
AT GROUP. FOR INSTANCE, ON YOUR  
SUPPOSE YOU LAY DOWN CHEESE, CARROT,  
THE GROUP "FOOD." YOU THEN DRAW  
OUR NEXT TURN, YOU CAN REMOVE  
OUR HAND AND ADD IT TO YOUR FOOD

## ANTICIPATED STUDENT BEHAVIORS

## MATERIALS

## TEACHING STRATEGIES

YOU CAN LAY DOWN CARDS IN MORE THAN ONE GROUP DURING ANY TURN. FOR EXAMPLE, YOU MIGHT ADD BACON TO YOUR FOOD GROUP AND ADD TWO CARDS TO YOUR TRANSPORTATION GROUP ON THE SAME TURN.

THE FIRST PLAYER TO LAY DOWN ALL HIS CARDS IS THE WINNER.

Remember: When all players have had a turn, the first player again spins the wheels, which point to two new groups, and the game continues until a player is able to lay all his cards on the table and have one left over for a discard.

Continue the demonstration only until the game is understood. Then divide the class into groups of three or four and allow students to play the game as long as it seems appropriate.

GAME TIME FOR



HAVE

## TEACHING STRATEGIES

DOWN CARDS IN MORE THAN ONE GROUP  
RN. FOR EXAMPLE, YOU MIGHT ADD  
FOOD GROUP AND ADD TWO CARDS TO  
TATION GROUP ON THE SAME TURN.

PLAYER TO LAY DOWN ALL HIS CARDS IS

1 players have had a turn, the  
player again spins the wheels,  
point to two new groups, and the  
continues until a player is able  
all his cards on the table and  
e left over for a discard.

stration only until the game is under-  
e the class into groups of three or four  
to play the game as long as it seems

## ANTICIPATED STUDENT BEHAVIORS

ACTIVITY 1-16

(127)

Students:

--observe the teacher and two classmates playing the  
game.

--demonstrate their ability to play the game follow-  
ing the rules described.

GAME TIME FOR EVERYONE



HAVE YOU  
INVOLVED  
ALL  
STUDENTS?

HAVE FUN



ACTIVITY 1-16

128

### MATERIALS

### TEACHING STRATEGIES

Following the game, ask:

WHAT DID YOU LEARN FROM PLAYING THIS GAME?

DID THE SAME CARD ALWAYS GO INTO THE SAME GROUP?

WHY NOT?

## CHING STRATEGIES

ask:

EARN FROM PLAYING THIS GAME?

ARD ALWAYS GO INTO THE SAME

## ANTICIPATED STUDENT BEHAVIORS

Students:

--respond, "How to put things in groups," "How to play it."

--respond that it fits in different ones at different times.

--conclude that the same items can be categorized in different ways.

## ACTIVITY 1-16: "Forming Categories"

Activity name suggested by class:

Teacher

BSCS USE:	Post	Tally	Rev		
Day 1	Day 2	Day 3	Day 4	Day 5	Day 6

1.	Date taught (month and date, e.g. 11/2)						
2.	Minute of class time on science each day						
3.	Minutes of preparation each day						
4.	Students absent on each day (Use ID Number)						

5. Interest of class as expressed by apparent attention to what is happening.Number of students responding with: Name students you noted especially:  
(Number)

HIGH INTEREST	_____
MODERATE INTEREST	_____
INDIFFERENCE	_____
MODERATE RESISTANCE	_____
STRONG DISLIKE	_____
HARD TO RATE	_____

6. Equipment in kit: ☐ None ☐ Satisfactory ☐ Too fragile ☐ Too complicated ☐ Difficult to use
7. Equipment I got: ☐ None ☐ Easy to get ☐ Hard to get, but okay ☐ Hard to get, add to kit ☐ Unobtainable, add to kit

8. Materials used:	Worksheet #	Game #	Slides (show slide nos.)	Transparency #	Card(s) #	Tape(s) #	Other #
Worthwhile as is							
Revise slightly							
Revise much							
Worthless: omit							

9. Maturity level is ☐ just right ☐ too childish ☐ too mature Explain:
10. Vocabulary level is ☐ just right ☐ too easy ☐ too difficult Explain:
11. Were teacher instructions clear enough to follow? ☐ Yes ☐ No - Pages and Problem:
12. Were clues to success and reviews of success helpful? ☐ Yes ☐ No - Why not?
13. Did the activity fulfill the purpose stated by the Guide? ☐ Yes ☐ No - Comment:
14. Were any parts of this activity omitted? ☐ No ☐ Yes - Explain:
15. Your rating of this activity:  
☐ Worthwhile ☐ Of value--needs the ☐ Worth salvaging--make ☐ Worthless  
--keep as is. revision suggested major changes described --drop it

8. Materials used:

Materials used:	Worksheet #	Game #	Slides (show slide nos.)	Transparency #	Card(s) #	Tape(s) #	Other #
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12. Were clues to success and reviews of success helpful? ☐ Yes ☐ No - Why not?

13. Did the activity fulfill the purpose stated by the Guide? ☐ Yes ☐ No - Comment:

14. Were any parts of this activity omitted? ☐ No ☐ Yes - Explain:

15. Your rating of this activity:  
☐ Worthwhile ☐ Of value--needs the ☐ Worth salvaging--make ☐ Worthless  
 --keep as is revision suggested major changes described --drop it

SPECIFIC CONCERNS ABOUT THIS ACTIVITY:

16. There are always parts of activities that are good and need not be changed.  
 What parts of this activity should be retained when the curriculum is revised?  
 Page(s) \_\_\_\_\_:

BSCS Evaluation: EMH Feedback Form 1c

17. Did pupils have difficulty understanding and using the categories on the spinner?  
☐ No ☐ Yes: Which categories?

18. Were any students unable to play Environmental Rummy?  
☐ No ☐ Yes: Tell who and explain.

19. Concern (or questions) about content:

20. Messages for staff (read immediately):

UNIT 1, CORE B  
ACTIVITY 1-16: "Forming Categories"

Teacher \_\_\_\_\_

REPORT OF WHAT HAPPENED AND SUGGESTIONS FOR REVISION

1. Whenever practical write all over your second copy of the Guide. Tear out the activity and send the annotated Guide in with this form.
2. Make specific suggestions - exactly what you think should appear in the Guide.
3. Tell us what you did. Think of what you needed, what you had to work out for yourself, how you presented something to make it go over.
4. Describe the revisions you said were needed in answering the questions on the other side of this form.
5. As a reminder of things that help in revision, read through the following list and check off things you want to be sure to note this time. (We know you can't tell about everything every time!)

THE LESSON

- ☐ how you organized materials or class.
- ☐ things added (a question, a picture, etc.).
- ☐ equipment, supplies, visual aids.
- ☐ things that went wrong, misunderstandings.
- ☐ wh. you would do differently
  - or avoid next time.
- ☐ turn-til in the class caused by the activity or disruptive students, or interruptions, and how you dealt with them.

THE STUDENTS

- ☐ who had problems and what they were.
- ☐ how someone "caught on" (or who never did).
- ☐ who was really "turned off" (or on).
- ☐ reactions of parents, teachers, students.
- ☐ special evidence of learning or applying ideas.



## Me and my Environment

### OBJECTIVE FOCUS FOR THIS ACTIVITY

#### UNIT GOALS:

1. Explore his immediate environment through a variety of sensory experiences and physical contacts.
2. Create a greater interest in, and a more sensitive attitude toward, his environment.

#### CORE B OBJECTIVES:

1. Explore a variety of environmental components and examine their properties and characteristics.
2. Group things according to observable attributes, sources, or functions.

### MATERIALS

- \*Ditto master
- \*Scissors
- \*Paste or glue

\*Not furnished in materials kit

### TEACHING STRATEGIES

#### Activity 1- 7. Review Of Success

*This activity will evaluate the student's ability to group or sort various items into categories. The items to be grouped will be the things in the classroom pond with which they should be fairly familiar by now.*

#### Teacher Preparation:

On a ditto master, make a list of the items in the classroom pond. Write them large enough so that they can be cut out (see Diagram 1-7).

Distribute one sheet to each of the students, telling them that this is a list of things that are in their pond. Go over the words with the students so they are familiar with them. Write NEVER LIVED, FROM PLANTS, FROM ANIMALS on the chalkboard. Direct the students to print each

### ACTIVITY

his immediate environment through  
a variety of sensory experiences and  
all contacts.

a greater interest in, and a more  
positive attitude toward, his environment.

ES:

a variety of environmental  
elements and examine their properties  
and characteristics.

things according to observable  
features, sources, or functions.

### TEACHING STRATEGIES

#### Review of Success

evaluate the student's ability to  
classify items into categories. The items  
are the things in the classroom pond  
and should be fairly familiar by now.

Make a list of the items in the class-  
room large enough so that they can be  
(1-7).

to each of the students, telling them  
of things that are in their pond. Go  
to the students so they are familiar  
with the items. NEVER LIVED, FROM PLANTS, FROM ANIMALS  
Direct the students to print each

UNIT 1. EXPLORING MY ENVIRONMENT

CORE B. INVESTIGATING MY  
ENVIRONMENT

ACTIVITY 1-17. REVIEW OF SUCCESS



BSCS

### ANTICIPATED STUDENT BEHAVIORS

At the end of this activity, each student should:

--have cut out and put the words describing items  
in the pond under the headings:  
FROM PLANTS, FROM ANIMALS, OR "NEVER LIVED."

# ACTIVITY 1-17

(130)

## MATERIALS

Diagram 1-7

ROCK	TURTLE
PLANTS	SAND
FISH	SNAIL
WATER	THERMOMETER
FROG	WADING POOL

Diagram 1-8

NEVER LIVED	FROM PLANTS	FROM ANIMALS

## TEACHING STRATEGIES

title on a blank sheet of paper, so three columns will be formed (see Diagram 1-8). Have scissors and paste or glue available.

Tell students to cut out each word on the sheet you gave them and decide whether that item belongs to the NEVER LIVED group, FROM PLANTS group, or FROM ANIMALS group. When they have decided, they should paste or tape the word under the proper group title. Be sure students understand the procedure before beginning.

When the students have completed the assignment, collect their papers. After class look over each student's paper. Use Tallysheet 1-2 to rate the papers. If only a few students have not been able to group logically, practice various grouping exercises with them before the next activity. If many students made errors, plan some review activities for the whole class.



## TEACHING STRATEGIES

sheet of paper, so three columns will be  
ram 1-8). Have scissors and paste or glue

cut out each word on the sheet you gave  
whether that item belongs to the NEVER  
PLANTS group, or FROM ANIMALS group.  
ecided, they should paste or tape the  
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ny students made errors, plan some review  
he whole class.

## ANTICIPATED STUDENT BEHAVIORS

Doing the Task. Rate each student in columns I and II below on whether he followed directions and completed the task of cutting at the same rate as the group. Circle "yes" or "no".

Correct Grouping. (Please attach a copy of the list of subjects and grades in column 3 below, indicate whether each student's groups were correctly sorted. If a student made Errors, list in column 4 anything that was incorrectly included in the never listed, plant, or animals category. This will help you determine if there is a specific plant or animal students are confused about or if certain students do not understand how to group things.

[illegible]

[illegible]

Activity name suggested by class:

BSC'S USE:		Post	Tally	Rev
Day 3	Day 4	Day 5	Day 6	

- |    |  |  |  |  |  |  |
|----|--|--|--|--|--|--|
| 1. | Date taught (month and date, e.g. 11/2)      |  |  |  |  |  |
| 2. | Minutes of class time on science each day    |  |  |  |  |  |
| 3. | Minutes of preparation each day              |  |  |  |  |  |
| 4. | Students absent on each date (Use ID Number) |  |  |  |  |  |

5. Interest of class as expressed by apparent attention to what is happening.

Number of students responding with: Name students you noted especially:  
(Number)

	HIGH INTEREST	_____▲_____	_____	_____
	MODERATE INTEREST	_____	_____	_____
	INDIFFERENCE	_____	_____	_____
	MODERATE RESISTANCE	_____	_____	_____
	STRONG DISLIKE	_____	_____	_____
	HARD TO RATE	_____▲_____	_____	_____

- | Equipment in kits: | <input type="checkbox"/> None needed | <input type="checkbox"/> Satisfactory | <input type="checkbox"/> Too fragile           | <input type="checkbox"/> Too complicated         | <input type="checkbox"/> Difficult to use         |              |            |
|--------------------|--------------------------------------|---------------------------------------|--|--|---|--------------|------------|
| Equipment I got:   | <input type="checkbox"/> None needed | <input type="checkbox"/> Easy to get  | <input type="checkbox"/> Hard to get, but okay | <input type="checkbox"/> Hard to get, add to kit | <input type="checkbox"/> Unobtainable, add to kit |              |            |
| Materials used:    | Worksheet<br>#   #   #               | Game<br>#                             | Slides (show slide nos.)                       | Transparency<br>#   #   #                        | Card(s)<br>#                                      | Tape(s)<br># | Other<br># |
| Worthwhile as is   |                                      |                                       |  |  |   |              |            |
| Revise slightly    |                                      |                                       |  |  |   |              |            |
| Revise much        |                                      |                                       |  |  |   |              |            |
| Worthless: omit    |                                      |                                       |  |  |   |              |            |
9. Maturity level is ☐ just right ☐ too childish ☐ too mature Explain:
  10. Vocabulary level is ☐ just right ☐ too easy ☐ too difficult Explain:
  11. Were teacher instructions clear enough to follow? ☐ Yes ☐ No - Pages and Problems:
  12. Were clues to success and reviews of success helpful? ☐ Yes ☐ No - Why not?
  13. Did the activity fulfill the purpose stated by the Guide? ☐ Yes ☐ No - Comment:
  14. Were any parts of this activity omitted? ☐ No ☐ Yes - Explain:
  15. Your rating of this activity:

Materials used:	worksheets	name	slide nos.)	#	#	#	#	#	#
Worthwhile as is									
Revise slightly									
Revise much									
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14. Were any parts of this activity omitted? ☐ No ☐ Yes - Explain:
15. Your rating of this activity:
  - ☐ Worthwhile ☐ Of value--needs the ☐ Worth salvaging--make ☐ Worthless
  - keep as is revision suggested major changes described --drop it

**SPECIFIC CONCERNS ABOUT THIS ACTIVITY:**

16. There are always parts of activities that are good and need not be changed.  
What parts of this activity should be retained when the curriculum is revised?  
page(s) \_\_\_\_\_:

17. Please complete Rallysheet 1-2 and send it in with this feedback sheet.

18. Concern (or questions) about content:

19. Messages for staff (read immediately):

EMH Evaluation: EMH Feedback Form 1c

Have you answered each question, attached annotated Guide, your revisions, student work, etc.?

Teacher \_\_\_\_\_

# REPORT OF WHAT HAPPENED AND SUGGESTIONS FOR REVISION

1. Whenever practical write all over your second copy of the Guide. Tear out the activity and send the annotated Guide in with this form.
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## THE LESSON

- ☐ how you organized materials or class.
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- ☐ things that went wrong, misunderstandings.
- ☐ what you would do differently or avoid next time.
- ☐ turmoil in the class caused by the activity, or disruptive students, or interruptions, and how you dealt with them.

## THE STUDENTS

- ☐ who had problems and what they were.
- ☐ how someone "caught on" (or who never did).
- ☐ who was really "turned off" (or on).
- ☐ reactions of parents, teachers, students.
- ☐ special evidence of learning or applying ideas.



## Me and my Environment

### OBJECTIVE FOCUS FOR THIS ACTIVITY

#### UNIT GOALS:

1. Explore his immediate environment through a variety of sensory experiences and physical contacts.
2. Recognize the environmental components essential for all living things.
3. Create a greater interest in, and a more sensitive attitude toward, his environment.
4. Understand that his environment includes the whole Earth.

#### CORE B OBJECTIVES:

1. Explore a variety of environmental components and examine their properties and characteristics.
3. Practice making estimates and predictions.
4. Determine new relationships he has with his environment.

### MATERIALS

### TEACHING STRATEGIES

#### Activity 1-18. Temperatures Affect All Living Things

*Students thus far have been identifying and categorizing components within their environment. This activity focuses the student's attention on another environmental component, temperature. Students will be introduced to the idea that a thermometer is a tool used in measuring temperature. They will observe the direct effect that temperature has on an organism and experience the effect it has upon themselves.*

THIS ACTIVITY

are his immediate environment through a variety of sensory experiences and social contacts.

minimize the environmental components essential for all living things.

develop a greater interest in, and a more positive attitude toward, his environment.

Understand that his environment includes the whole Earth.

OBJECTIVES:

Observe a variety of environmental elements and examine their properties and characteristics.

Practice making estimates and predictions.

Determine new relationships he has with his environment.

TEACHING STRATEGIESTemperatures Affect All Living Things

After having been identifying and categorizing elements in their environment. This activity focuses attention on another environmental component. Students will be introduced to the idea that the tool used in measuring temperature. The direct effect that temperature has on organisms. Experience the effect it has upon

UNIT 1.

EXPLORING MY ENVIRONMENT



CORE B.

INVESTIGATING MY ENVIRONMENT

**BSCS**

ACTIVITY 1-18.

TEMPERATURES AFFECT ALL LIVING THINGS

ANTICIPATED STUDENT BEHAVIORS

At the end of this activity, each student should:

- have observed that temperatures affect the behavior of organisms.
- have experienced a visible and functional effect of a temperature change in his body.
- have concluded that temperatures have a vital effect on all living things.



# ACTIVITY 1-18

(132)

## MATERIALS

- \*Bowls or pie pans (1 per student)
- \*Baby food jars (1 per student)
- \*Collection of ants in a jar  
(At least one ant per student)
- \*5 lb. Bag of ice
- \*6-8 Containers - gallon size
- \*Strings about 27" long (1 per student)
- \*Nylon net or mesh (enough to cover each baby food jar to prevent ants from escaping)

\*Not furnished in materials kit

## TEACHING STRATEGIES

### Teacher Preparation:

1. Before the class meets, if possible, make the temperature in your classroom uncomfortable. Do this either by opening the windows and making it too cool or by turning up the heat to make it too warm.
2. Have on hand a collection of ants if they are available. If not, other living things such as houseflies or sow bugs will do.
3. Have a large bag of ice available where the students can see it. This will be used for the hand experiment. It may also give students an idea to use in their ant experiment.

### Begin by asking:

DOES IT SEEM WARM (COLD) IN HERE?

WHAT DO YOU SUPPOSE THE TEMPERATURE IS?

HOW DOES THIS EXTRA HEAT (COLD) MAKE YOU FEEL?

WHAT COULD WE DO TO MAKE YOU FEEL MORE COMFORTABLE?

Adjust the room temperature back to normal so the room will be comfortable.

Then say:

## TEACHING STRATEGIES

tion:

When class meets, if possible, make the room in your classroom uncomfortable. Do this by opening the windows and making it cooler by turning up the heat to make it

Find a collection of ants if they are available. If not, other living things such as crickets or sow bugs will do.

Place a large bag of ice available where the students can see it. This will be used for the experiment. It may also give students an idea of how to keep the room cool in their ant experiment.

IS IT WARM (COLD) IN HERE?

WHAT DO YOU SUPPOSE THE TEMPERATURE IS?

HOW DOES THIS EXTRA HEAT (COLD) MAKE YOU FEEL?

WHAT CAN WE DO TO MAKE YOU FEEL MORE COMFORTABLE?

How do we get the temperature back to normal so the room is comfortable.

## ANTICIPATED STUDENT BEHAVIORS

Students:

--respond, "Yes," "It's hot (cold)."

--guess what they think the temperature is, or say, "Too hot," "Too cold."

--respond, "Uncomfortable," "Like leaving," etc.

--respond, "Turn the heat up." (down)

## MATERIALS

## TEACHING STRATEGIES

WHY IS THE TEMPERATURE OF THINGS IMPORTANT TO US?

WE KNOW THAT TEMPERATURE IS IMPORTANT TO US AND AFFECTS HOW WE FEEL AND WHAT WE DO. LET'S FIND OUT IF TEMPERATURE AFFECTS OTHER LIVING THINGS TOO.

Distribute a small jar or bottle to each student. Have each student take an ant from the collection and put it in his jar.

Then say:

LOOK AT YOUR ANT. HOW IS IT BEHAVING? WHAT IS IT DOING?

WHAT DO YOU SUPPOSE WOULD HAPPEN IF THE ANT SUDDENLY BECAME VERY COLD?

WHAT COULD WE DO TO FIND OUT WHAT WOULD HAPPEN IF THE ANT BECAME VERY COLD?

THERE IS A BAG OF ICE OVER THERE. HOW COULD WE USE THAT IN OUR COLD ANT TEST?

Give each student an ice cube in a bowl, pie plate, or other appropriate container.

Say:

## TEACHING STRATEGIES

TEMPERATURE OF THINGS IMPORTANT TO

TEMPERATURE IS IMPORTANT TO US AND  
FEEL AND WHAT WE DO. LET'S FIND  
HOW IT AFFECTS OTHER LIVING THINGS

Give each student a jar or bottle to each student. Have  
an ant from the collection and put it

1. HOW IS IT BEHAVING? WHAT

2. WHAT WOULD HAPPEN IF THE ANT  
WAS VERY COLD?

3. HOW TO FIND OUT WHAT WOULD  
HAPPEN IF THE ANT BECAME VERY COLD?

4. PUT AN ANT ON A PIECE OF ICE OVER THERE. HOW COULD  
WE TEST OUR COLD ANT TEST?

5. Put an ice cube in a bowl, pie plate, or  
other container.

## ANTICIPATED STUDENT BEHAVIORS

ACTIVITY 1-18

(133)

Students:

--respond, "So we know what to wear," "So we  
know whether to touch things," "So we know  
what the weather is like."

--observe the ants and respond, "Running around,"  
"Trying to get out," etc.

--make predictions about what would happen to the  
ant, such as "It'd die," "Nothing," "It'd freeze,"  
etc.

--suggest various techniques for subjecting the  
ants to cold temperatures, such as putting it  
in the refrigerator, under cold water, on ice, etc.

--suggest putting the ant on the ice cubes.

ACTIVITY 1-18

(134)

MATERIALS

TEACHING STRATEGIES

IN A FEW MINUTES WE'LL ALL SET OUR ANT JARS  
ON THE ICE CUBE. HOW DO YOU THINK THE ANT  
WILL ACT?

Direct the students to set their jars on the ice cubes,  
and leave them there for a few minutes.

OBSERV

Then ask:

HOW IS YOUR ANT BEHAVING?

WHY DO YOU SUPPOSE IT'S ACTING THAT WAY?

Allow the students to experiment with exposing the ant in  
other ways to cold temperature (or hot).

ALLOW TIME FOR

After students have had time to experiment with the ant,  
say:

HOW FAST CAN YOU TIE YOUR SHOES, (student's  
name)?

I'LL TIME YOU. READY ----- GO!

Have string available to tie around the shoe for students  
who do not have shoes that tie. Watch the second hand on  
the clock to see how fast they tie their shoes. Record a  
sampling of the times on the board.

ING STRATEGIES	ANTICIPATED STUDENT BEHAVIORS
<p>WE'LL ALL SET OUR ANT JARS HOW DO YOU THINK THE ANT</p> <p>set their jars on the ice cubes, a few minutes.</p>	<p>Students:</p> <p>--predict, "It'll die," "It'll freeze," "It'll climb out," etc.</p>
<p>HAVING?</p> <p>IT'S ACTING THAT WAY?</p> <p>periment with exposing the ant in perature (or hot).</p>	<p>--respond, "It's moving slower and slower," "It crawled up to the top of the jar."</p> <p>--respond, "It probably feels very cold," "It's not comfortable," "It wants to get out."</p>
<p>time to experiment with the ant,</p> <p>TE YOUR SHOES, (<u>student's</u></p> <p>DY ----- GO!</p> <p>tie around the shoe for students at tie. Watch the second ha on t they tie their shoes. Record a the board.</p>	<p>--respond, "Real fast."</p> <p>--will tie shoes as quickly as possible.</p>

OBSERVATION TIME

ALLOW TIME FOR EXPERIMENTATION

## MATERIALS

## TEACHING STRATEGIES

IF YOUR HANDS WERE COLD, DO YOU THINK YOU COULD TIE THEM JUST AS FAST?

Now have students take turns holding their hands in a large container of ice water for as long as they can stand it, but at least 30 seconds. (Two or three students can put their hands in each container.) Now time them to see how fast they can tie their shoes. Ask:

WHAT HAPPENED?

WHY?

WHAT HAPPENS TO LIVING THINGS WHEN THEY BECOME VERY COLD?

WHAT WOULD HAPPEN IF WE WERE IN ICY WEATHER FOR VERY LONG PERIODS OF TIME?

CAN TEMPERATURE CHANGE OUR ENVIRONMENT?

HOW?

IS TEMPERATURE A PART OF OUR ENVIRONMENT JUST AS MUCH AS HOUSES AND FRIENDS AND PLANTS ARE?

WHY?

As a possible extension of this activity, students might be interested in experimenting to see how cold affects plants.

## TEACHING STRATEGIES

...OLD, DO YOU THINK YOU COULD  
...T?

...rns holding their hands in a  
...ter for as long as they can stand  
...ds. (Two or three students can  
...ontainer.) Now time them to see  
...eir shoes. Ask:

...NG THINGS WHEN THEY

... WE WERE IN ICY WEATHER  
...S OF TIME?

...GE OUR ENVIRONMENT?

...RT OF OUR ENVIRONMENT JUST  
...ID FRIENDS AND PLANTS ARE?

...f this activity, students might  
...enting to see how cold affects

## ANTICIPATED STUDENT BEHAVIORS

ACTIVITY 1-18

135

Students:

--predict, "Yes," "No," "Maybe."

--respond, "Wow, that was hard," "I couldn't move."

--respond, "My hand was too cold."

--respond, "They don't move as well."

--respond, "I'd freeze to death," "We wouldn't  
be able to move."

--respond, "Yes," "No."

--respond, "Make the leaves fall," "Freeze water,"  
"Snow changes the ground, etc."

--respond, "Yes."

--respond, "Because it's always around us," "We  
can't get away from it," "We feel it all the  
time," etc.



# ACTIVITY 1-18: "Temperature Affects All Living Things"

Activity name suggested by class:

Teacher

BSCS USE:	Post	Tally	Rev
Day 1	Day 2	Day 3	Day 4
Day 5	Day 6		

	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6
1. Date taught (month and date, e.g. 11/2)						
2. Minutes of class time						
3. On science each day						
4. Minutes of preparation each day						
5. Students absent on each date (Use ID Number)						

Interest of class as expressed by apparent attention to what is happening.

Number of students responding with: Name students you noted especially:

HIGH INTEREST	
MODERATE INTEREST	
INDIFFERENCE	
MODERATE RESISTANCE	
STRONG DISLIKE	
HARD TO RATE	

Equipment in kit: ☐ None ☐ Satisfactory ☐ Too fragile ☐ Too complicated ☐ Difficult to use

Equipment I got: ☐ Easy to get ☐ Hard to get, but okay ☐ Hard to get, add to kit ☐ Unobtainable, add to kit

Materials used:	Worksheet #	Game #	Slides (show slide nos.)	Transparency #	Card(s) #	Tape(s) #	Other #
Worthwhile as is							
Revise slightly							
Revise much							
Worthless: omit							

Maturity level is ☐ just right ☐ too childish ☐ too mature Explain:

Vocabulary level is ☐ just right ☐ too easy ☐ too difficult Explain:

Were teacher instructions clear enough to follow? ☐ Yes ☐ No - Pages and Problem:

Were clues to success and reviews of success helpful? ☐ Yes ☐ No - Why not?

Did the activity fulfill the purpose stated by the Guide? ☐ Yes ☐ No - Comment:

Were any parts of this activity omitted? ☐ No ☐ Yes - Explain:

Your rating of this activity:

	#	#	#	#	#	#	#	#	#	#	#	#	#
Worthwhile as is													
Revise slightly													
Revise much													
Worthless: omit													

9. Maturity level is ☐ just right ☐ too childish ☐ too mature Explain:
10. Vocabulary level is ☐ just right ☐ too easy ☐ too difficult Explain:
11. Were teacher instructions clear enough to follow? ☐ Yes ☐ No - Pages and Problem:
12. Were clues to success and reviews of success helpful? ☐ Yes ☐ No - Why not?
13. Did the activity fulfill the purpose stated by the Guide? ☐ Yes ☐ No - Comment:
14. Were any parts of this activity omitted? ☐ No ☐ Yes - Explain:
15. Your rating of this activity:  
☐ Worthwhile ☐ Of value--needs the ☐ Worth salvaging--make ☐ Worthless  
--keep as is ☐ revision suggested ☐ major changes described ☐ --drop it  
-----

## SPECIFIC CONCERNS ABOUT THIS ACTIVITY:

16. There are always parts of activities that are good and need not be changed.  
What parts of this activity should be retained when the curriculum is revised?  
Page(s) \_\_\_\_\_:
17. Which temperature did you use to make your classroom uncomfortable?  
☐ Heat ☐ Cold: Comment.
18. Was it difficult to obtain ants or other small animals for this activity?  
☐ No ☐ Yes: Comment.
19. Concern (or questions) about content:
20. Messages for staff (read immediately):

BSCS Evaluation: EMH Feedback Form 1c

Have you answered each question, attached annotated Guide, your revisions, student work, etc.?

## ACTIVITY 1-18: "Temperature Affects All Living Things"

Teacher \_\_\_\_\_

## REPORT OF WHAT HAPPENED AND SUGGESTIONS FOR REVISION

1. Whenever practical write all over your second copy of the Guide. Tear out the activity and send the annotated Guide in with this form.
2. Make specific suggestions - exactly what you think should appear in the Guide.
3. Tell us what you did. Think of what you needed, what you had to work out for yourself, how you presented something to make it go over.
4. Describe the revisions you said were needed in answering the questions on the other side of this form.
5. As a reminder of things that help in revision, read through the following list and check off things you want to be sure to note this time. (We know you can't tell about everything every time!)

## THE LESSON

- ☐ how you organized materials or class.
- ☐ things added (a question, a picture, etc.).
- ☐ equipment, supplies, visual aids.
- ☐ things that went wrong, misunderstandings.
- ☐ what you would do differently or avoid next time.
- ☐ turmoil in the class caused by the activity, or disruptive students, or interruptions, and how you dealt with them.

## THE STUDENTS

- ☐ who had problems and what they were.
- ☐ how someone "caught on" (or who never did).
- ☐ who was really "turned off" (or on).
- ☐ reactions of parents, teachers, students.
- ☐ special evidence of learning or applying ideas.



## Me and my Environment

### OBJECTIVE: FOCUS FOR THIS ACTIVITY

#### UNIT GOALS:

1. Explore his immediate environment through a variety of sensory experiences and physical contacts.
2. Recognize the environmental components essential for all living things.
3. Create a greater interest in, and a more sensitive attitude toward, his environment.
4. Understand that his environment includes the whole Earth.

#### CORE B OBJECTIVES:

1. Explore a variety of environmental components and examine their properties and characteristics.
2. Group things according to observable attributes, sources, or functions.
4. Determine new relationships he has with his environment.

### MATERIALS

### TEACHING STRATEGIES

#### Activity 1-19. Reading A Thermometer

*This activity is designed to give the students an understanding of how thermometers are read. They will also practice using a thermometer. This information will not only be useful to the student in the subsequent activity, but in his everyday life as well.*

THIS ACTIVITY

re his immediate environment through  
ety of sensory experiences and  
cal contacts.

nize the environmental components  
tial for all living things.

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tive attitude toward, his environment.

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TEACHING STRATEGIESReading A Thermometer

signed to give the students an under-  
mometers are read. They will also  
mometer. This information will not  
the student in the subsequent activity,  
life as well.

UNIT I. EXPLORING MY ENVIRONMENT

CORE B. INVESTIGATING MY  
ENVIRONMENT

ACTIVITY 1-19. READING A THERMOMETER



**BSCS**

ANTICIPATED STUDENT BEHAVIORS

*At the end of this activity, each student should:*

- have made a cardboard thermometer.
- have practiced locating temperatures on a card-board thermometer.
- have successfully read a thermometer.
- have experimented with taking various temperatures around the classroom.
- have completed Worksheet 1-7.

ACTIVITY 1-19

(138)

MATERIALS

Thermometers (1 per student)  
Large model of thermometer  
Worksheet 1-7  
Slide 1-35  
\*Thin cardboard (1 per student)  
\*Paste  
\*Red string (25" per student)  
\*White string (25" per student)  
\*Stapler  
\*Colored pencils or thin felt tip markers  
\*Scissors (1 pair per student)  
\*Hole puncher  
\*35mm Slide projector

\*Not furnished in materials kit

TEACHING STRATEGIES

Teacher Preparation:

Shirt cardboard or the cardboard from the back of a notepad (8 1/2 X 11) should be appropriate for this activity. If these are used, cut them in half vertically.

String or yarn should be cut in 25" lengths.

Have stapler, paste, colored pencils, and thin felt tip markers available for student use.

Set the demonstration thermometer model in view of all students.

Begin by asking:

IN THE LAST ACTIVITY WE TALKED ABOUT TEMPERATURE.  
IF WE WANTED TO KNOW THE TEMPERATURE OUTSIDE  
HOW WOULD WE BE ABLE TO FIND OUT WHAT IT IS?

WHY WOULD YOU NEED TO KNOW WHAT THE TEMPERATURE  
IS?

TODAY WE'RE GOING TO MAKE SOME THERMOMETERS  
OUT OF PAPER AND CARDBOARD AND PRACTICE USING  
THEM SO LATER WE CAN TAKE THE TEMPERATURE OF  
THINGS WITH REAL THERMOMETERS.

WHEN WE WEIGH PEOPLE ON A SCALE, WE WEIGH THEM  
IN POUNDS. WHEN WE MEASURE HOW TALL SOMEONE IS,  
WE USE FEET AND INCHES. WHEN WE MEASURE FLOUR  
OR SUGAR FOR BAKING, WE USE CUPS. DOES ANYONE  
KNOW WHAT WE USE WHEN WE MEASURE TEMPERATURE?

## TEACHING STRATEGIES

1:

the cardboard from the back of a note-  
should be appropriate for this activity.  
cut them in half vertically.

uld be cut in 25" lengths.

, colored pencils, and thin felt tip  
for student use.

on thermometer model in view of all

CTIVITY WE TALKED ABOUT TEMPERATURE.  
TO KNOW THE TEMPERATURE OUTSIDE  
BE ABLE TO FIND OUT WHAT IT IS?

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GOING TO MAKE SOME THERMOMETERS  
AND CARDBOARD AND PRACTICE USING  
WE CAN TAKE THE TEMPERATURE OF  
AL THERMOMETERS.

PEOPLE ON A SCALE, WE WEIGH THEM  
WHEN WE MEASURE HOW TALL SOMEONE IS,  
D INCHES. WHEN WE MEASURE FLOUR  
AKING, WE USE CUPS. DOES ANYONE  
USE WHEN WE MEASURE TEMPERATURE?

## ANTICIPATED STUDENT BEHAVIORS

Students:

--respond, "From the radio," "The weatherman,"  
"By reading a thermometer."

--respond, "So you know what to wear," "To find  
out how cold it is," etc.

--respond, "Degrees," "I don't know."

## MATERIALS

## TEACHING STRATEGIES

If students do not know that temperature is measured in degrees, ask them:

HOW MANY OF YOU CAN COUNT BY TWO'S?

Ask for volunteers to count by two's to twenty, starting with zero.

Direct the students attention to the thermometer model and point to the zero.

Say:

WHAT DO THE NUMBERS BELOW THE ZERO MEAN?

Say:

WHEN THE RED LINE IN THE THERMOMETER GOES BELOW OR UNDERNEATH THE ZERO °, IT IS VERY COLD. WE READ THE THERMOMETER BY SAYING IT IS BELOW ZERO. TODAY WE ARE GOING TO READ ONLY TEMPERATURES THAT ARE ABOVE ZERO. EACH LINE ON A THERMOMETER SHOWS TWO DEGREES.

Demonstrate by having the students count with you as you put the red mark at 0° and move it up each 2°.

Now place the "mercury" in the model at the 2° mark.

Ask:

WHAT DOES THIS SAY?

HOW DO WE KNOW?



## TEACHING STRATEGIES

do not know that temperature is in degrees, ask them:

YOU CAN COUNT BY TWO'S?

Count by two's to twenty, starting

Attention to the thermometer model

MARKS BELOW THE ZERO MEAN?

WHEN THE THERMOMETER GOES BELOW  
ZERO °, IT IS VERY COLD. WE  
START BY SAYING IT IS BELOW ZERO.  
TRY TO READ ONLY TEMPERATURES  
ABOVE ZERO. EACH LINE ON A THERMOMETER

Have the students count with you as you  
move it up each 2°.

"2" in the model at the 2° mark.

WHY?

## ANTICIPATED STUDENT BEHAVIORS

ACTIVITY 1-19

139

Students:

--raise their hands in response to the question.

--volunteer to count by two's.

--some may respond, "Below zero," "Really cold,"  
others may not know.

--read the thermometer as you move it and say  
two, four, six, eight, ten, twelve...

--respond, "Two degrees."

--respond, "Because each mark represents two  
degrees."

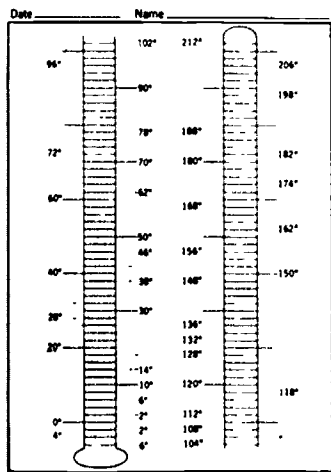
# ACTIVITY 1-19

140

## MATERIALS

Slide 1-35

Worksheet 1-7



## TEACHING STRATEGIES

Move it to the 8° mark and ask:

WHAT DOES THIS SAY? WHY?

Continue in a like manner until you think students have had sufficient practice. Next have a student come up and set the temperature on the model thermometer at a temperature he chooses. Have the student call on a classmate for the answer. If the answer is correct, the student who gave the response elects and sets a temperature for the class. Continue practice in this way, giving all students an opportunity to use the thermometer.

Distribute a copy of Worksheet 1-7 to each student and project Slide 1-35.

Direct the students' attention to their worksheets and say:

ON YOUR WORKSHEET YOU HAVE TWO PARTS OF THERMOMETERS, A TOP PART AND A BOTTOM PART.

WHAT IS MISSING ON EACH PART?

USING A PENCIL, SEE HOW QUICKLY YOU CAN FILL IN THE MISSING NUMBERS.

Observe the students while they work so you can notice errors and give help where necessary.

## TEACHING STRATEGIES

ask and ask:

WHY? WHY?

anner until you think students have  
ce. Next have a student come up and  
n the model thermometer at a tempera-  
e the student call on a classmate for  
answer is correct, the student who  
ets and sets a temperature for the  
tice in this way, giving all students  
the thermometer.

Worksheet 1-7 to each student and

attention to their worksheets and

IF YOU HAVE TWO PARTS OF  
TOP PART AND A BOTTOM PART.

ON EACH PART?

SEE HOW QUICKLY YOU CAN  
ING NUMBERS.

while they work so you can notice  
where necessary.

## ANTICIPATED STUDENT BEHAVIORS

Students:

--respond, "Eight degrees because a mark represents  
two degrees and there are four marks so I counted  
by two's to eight."

--respond, "Some of the numbers."



### MATERIALS

### TEACHING STRATEGIES

As students finish, correct their papers. Review the answers with them so they realize where their mistakes were made. Now have them use colored pencils or felt markers to darken the numbers.

Say:

NOW YOU ARE GOING TO USE THIS WORKSHEET TO  
MAKE YOUR OWN PRACTICE THERMOMETER.

Demonstrate how to make the model. Take two pieces of cardboard and staple them lengthwise. Fold the picture of the thermometer (Worksheet 1-7) in half and cut along the fold. Paste it to the stapled cardboard, one side at a time. Point out the importance of pasting the parts so they join correctly. Use the hole puncher to punch the top and bottom (see the model thermometer). Tie one end of the red string to one end of the white string. Insert the untied ends into the holes at each end of the thermometer and tie them together so the string fits snugly but can still slide around the cardboard.

Help students make their thermometers as necessary.

When all thermometers have been made, students will be given practice in reading a thermometer as appropriate for temperatures throughout the seasons of the year in your community.

Begin by saying:

## ING STRATEGIES

## ANTICIPATED STUDENT BEHAVIORS

ACTIVITY 1-19

(141)



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ey realize where their mistakes  
em use colored pencils or felt tip  
umbers.

TO USE THIS WORKSHEET TO  
TICE THERMOMETER.

the model. Take two pieces of the  
em lengthwise. Fold the picture  
(sheet 1-7) in half and cut it on  
the stapled cardboard, one sheet  
the importance of pasting the two  
ectly. Use the hole puncher at  
(the model thermometer). Tie one  
o one end of the white string.  
into the holes at each end of the  
m together so the string fits  
ide around the cardboard.

r thermometers as necessary.

ave been made, students will be  
ng a thermometer as appropriate  
nout the seasons of the year in

## MATERIALS

## TEACHING STRATEGIES

WHAT SEASON OF THE YEAR ARE WE NOW IN?

DOES ANYONE KNOW OR CAN ANYONE GUESS WHAT THE TEMPERATURE IS TODAY?

If students do not estimate or know the temperature, tell them an approximate temperature.

SHOW \_\_\_\_°, THE TEMPERATURE TODAY, BY MOVING THE STRING ON YOUR THERMOMETER.

IN THE (season), THE TEMPERATURE IN THIS AREA IS USUALLY BETWEEN (approximate range of temperatures in your area). WE ARE GOING TO PRACTICE LOCATING SOME OF THESE TEMPERATURES ON YOUR THERMOMETERS.

Give students practice in locating temperatures for the current season. Then proceed in the same manner for the other three seasons.

The next part of the strategy needs to be adapted to your geographical area.

Say:

IN WINTER, THE TEMPERATURE IS USUALLY VERY COLD. WHAT TEMPERATURES DO WE USUALLY HAVE IN WINTER?

HOW COLD DOES IT HAVE TO BE FOR US TO HAVE SNOW AND ICE?

IT USUALLY MUST BE COLDER THAN THIRTY-TWO DEGREES FOR US TO HAVE SNOW AND ICE. SHOW 32° ON YOUR THERMOMETER.

## ING STRATEGIES

YEAR ARE WE NOW IN?

R CAN ANYONE GUESS WHAT THE  
AY?

mate or know the temperature, tell  
perature.

PERATURE TODAY, BY MOVING  
THERMOMETER.

HE TEMPERATURE IN THIS AREA  
(approximate range of  
ur area). WE ARE GOING TO  
SOME OF THESE TEMPERATURES  
RS.

in locating temperatures for the  
proceed in the same manner for the

strategy needs to be adapted to your

PERATURE IS USUALLY VERY  
ATURES DO WE USUALLY HAVE

AVE TO BE FOR US TO HAVE

COLDER THAN THIRTY-TWO  
AVE SNOW AND ICE. SHOW  
METER.

## ANTICIPATED STUDENT BEHAVIORS

Students:

--respond by telling the season.

--estimate the temperature or respond, "Don't know."

--recall previous practice and respond with low  
temperatures.

--respond with guesses of low temperatures.

--respond by showing 32°.

## MATERIALS

## TEACHING STRATEGIES

Check to see if each student shows the correct temperature.

WE CALL THIRTY-TWO DEGREES THE FREEZING POINT.

Write "freezing point" on the chalkboard. Then write 32° next to it.

WHY DO YOU THINK WE CALL THIRTY-TWO DEGREES THE FREEZING POINT?

If students do not know, say:

WE CALL THIRTY-TWO DEGREES THE FREEZING POINT BECAUSE IT IS THE TEMPERATURE THAT WATER WILL FREEZE AT.

WHAT DOES FROZEN WATER LOOK LIKE?

NOW TAKE YOUR PENCIL AND MAKE A SMALL CIRCLE AROUND THIRTY-TWO DEGREES ON YOUR THERMOMETER. THE CIRCLE WILL HELP YOU REMEMBER THAT THIRTY-TWO DEGREES IS THE FREEZING POINT.

ANYTHING COLDER THAN THIRTY-TWO DEGREES IS STILL FREEZING. ANY NUMBERS BELOW THIRTY-TWO ON A THERMOMETER ARE FREEZING. IS THIRTY BELOW THIRTY-TWO ON YOUR THERMOMETER?

THEN IS THIRTY DEGREES FREEZING?

Have each student locate the temperature on his thermometer by sliding the string. Continue giving practice with freezing temperatures. Have some students select freezing temperatures for the class to show on their thermometers. During this practice, check to see that all students are responding correctly to the given temperatures.

Additional practice in reading and locating temperatures on the thermometer is given below, using the boiling point of water.



## TEACHING STRATEGIES

Each student shows the correct temperature.

THIRTY-TWO DEGREES THE FREEZING POINT.

Point" on the chalkboard. Then write 32°

WHY DO WE CALL THIRTY-TWO DEGREES  
THE FREEZING POINT?

Students do not know, say:

THIRTY-TWO DEGREES THE FREEZING  
POINT BECAUSE IT IS THE TEMPERATURE THAT  
WATER FREEZES AT.

HOW DOES WATER LOOK LIKE?

USE A PENCIL AND MAKE A SMALL CIRCLE  
AROUND THIRTY-TWO DEGREES ON YOUR THERMOMETER.  
THIS WILL HELP YOU REMEMBER THAT THIRTY-  
TWO IS THE FREEZING POINT.

ANY TEMPERATURE LOWER THAN THIRTY-TWO DEGREES IS  
FREEZING. ANY NUMBERS BELOW THIRTY-  
TWO ON YOUR THERMOMETER ARE FREEZING. IS THIRTY-  
TWO ON YOUR THERMOMETER?

WHY ARE THIRTY-TWO DEGREES FREEZING?

Have each student locate the temperature on his thermometer  
and label it. Continue giving practice with  
other temperatures. Have some students select freezing  
temperatures and have the class to show on their thermometers.  
Finally, check to see that all students are  
able to locate the given temperatures.

Practice in reading and locating temperatures  
on a thermometer below, using the boiling point

## ANTICIPATED STUDENT BEHAVIORS

ACTIVITY 1-19

143

Students:

--respond with guesses.

--respond, "Ice," "Snow."

--respond by circling thirty-two degrees.

--look at their thermometers and respond, "Yes."

--respond, "Yes."

## MATERIALS

## TEACHING STRATEGIES

Ask:

HOW MANY OF YOU HAVE EVER SEEN WATER BOIL?

HOW DO YOU KNOW WHEN THE WATER IS BOILING?

DOES ANYONE KNOW WHAT THE TEMPERATURE IS WHEN WATER BOILS?

THE TEMPERATURE THAT WATER BOILS AT IS  $212^{\circ}$ .  
FIND  $212^{\circ}$  ON YOUR THERMOMETER AND MAKE THE  
RED STRING SHOW  $212^{\circ}$ .

Check to see that each student has correctly shown  $212^{\circ}$  on the thermometer.

Ask:

WE SAID THAT  $32^{\circ}$  IS CALLED THE FREEZING POINT.  
WHAT DO YOU THINK WE CALL  $212^{\circ}$ ?

WHY DO YOU THINK WE CALL  $212^{\circ}$  THE BOILING POINT.

Write "boiling point" on the chalkboard and put " $212^{\circ}$ " next to it.

Ask:

WOULD ANYONE LIKE TO PUT HIS HAND IN WATER  
THAT WAS  $212^{\circ}$ ?

WHY NOT?

WHAT ARE SOME OTHER VERY HOT TEMPERATURES WE  
COULD FIND ON OUR PRACTICE THERMOMETERS?

As students respond, have them manipulate the string to show the temperature.

Ask:

## TEACHING STRATEGIES

HAVE EVER SEEN WATER BOIL?

WHEN THE WATER IS BOILING?

WHAT THE TEMPERATURE IS WHEN

THAT WATER BOILS AT IS  $212^{\circ}$ .

YOUR THERMOMETER AND MAKE THE  
 $212^{\circ}$ .

Which student has correctly shown  $212^{\circ}$

WHAT IS CALLED THE FREEZING POINT.  
WHAT DO WE CALL  $212^{\circ}$ ?

WHAT DO WE CALL  $212^{\circ}$  THE BOILING POINT.

Draw it on the chalkboard and put " $212^{\circ}$ "

ASK HIM TO PUT HIS HAND IN WATER

OTHER VERY HOT TEMPERATURES WE  
USE OUR PRACTICE THERMOMETERS?

Have them manipulate the string to

## ANTICIPATED STUDENT BEHAVIORS

Students:

--respond by raising hands.

--recall that they see bubbles.

--respond that they do not know.

--respond by moving the string.

--infer, "The boiling point."

--respond, "It's the temperature that water boils at."

--respond, "No," "Of course not."

--respond, "It's much too hot."

--respond by making suggestions.

## MATERIALS

## TEACHING STRATEGIES

DOES IT EVER GET THIS HOT OUTSIDE?

Students will now be given the opportunity to read a real thermometer.

Divide the class into groups of four. Give each group of students two Fahrenheit thermometers, a container of very warm water, and a container of ice water. Then do the following:

1. Have one student from the group hold a thermometer in each hand.
2. Each group should record the temperature reading of the two thermometers. When this is done the thermometers should be put down.
3. Have a student put one hand in the warm water and the other hand in the ice water for at least 30-60 seconds.
4. Have the same student pick up both thermometers, one in each hand. The group should observe and record the temperature of each thermometer.

When they have finished ask:

WHAT HAS HAPPENED?

WHY?

Distribute thermometers to each student. Direct them to record the temperature of each can of water, of the air near the radiator, of the pond, under his arms, and any other place he might want to. Circulate through the room while the students are doing this and assist those who are having difficulty. When students have had ample time to

## TEACHING STRATEGIES

THIS HOT OUTSIDE?

Given the opportunity to read a real

groups of four. Give each group of  
at thermometers, a container of very  
tainer of ice water. Then do the

from the group hold a thermometer

and record the temperature reading  
mometers. When this is done the  
ould be put down.

put one hand in the warm water and  
in the ice water for at least 30-60

student pick up both thermometers,  
d. The group should observe and  
erature of each thermometer.

ed ask:

D?

ers to each student. Direct them to  
e of each can of water, of the air  
the pond, under his arms, and any  
want to. Circulate through the room  
e doing this and assist those who are  
hen students have had ample time to

## ANTICIPATED STUDENT BEHAVIORS

ACTIVITY 1-19

145

Students:

--respond, "No."

--note that both readings are the same.

--respond, "The temperature went down in the cold  
hand and up in the warm hand."

--respond that one hand was cold and one was hot.

ACTIVITY 1-19

146

MATERIALS

TEACHING STRATEGIES

use their thermometers in various ways, direct them to be seated. Write on the chalkboard, "radiator," "pond," "underarm," "water," and other places where the temperature was recorded.

Ask:

(Student's name), WHAT WAS THE TEMPERATURE OF THE POND?

(Student's name), DO YOU AGREE WITH THAT TEMPERATURE?

If students do not agree, put the second temperature on the chalkboard and direct a student to take the temperature of the pond again so the disagreement can be resolved. Continue in this manner until all places where temperatures were taken have been discussed.

## ING STRATEGIES

in various ways, direct them to  
the chalkboard, "radiator," "pond,"  
and other places where the tempera-

WHAT WAS THE TEMPERATURE OF

DO YOU AGREE WITH THAT

he, put the second temperature on  
at a student to take the tempera-  
so the disagreement can be resolved.  
until all places where tempera-  
been discussed.

## ANTICIPATED STUDENT BEHAVIORS

Students:

--respond by giving the temperature he recorded.

--respond, "Yes," "No."

## ACTIVITY 1-10: "Reading A Thermometer"

Activity name suggested by class:

Teacher

BSCS USE:	Post	Tally	Rev		
Day 1	Day 2	Day 3	Day 4	Day 5	Day 6

1.	Date taught (month and date, e.g. 11/2)					
2.	Minutes of class time on science each day					
3.	Minutes of preparation each day					
4.	Students absent on each date (Use ID Number)					

5. Interest of class as expressed by apparent attention to what is happening.Number of students responding with: Name students you noted especially:  
(Number)

HIGH INTEREST	_____
MODERATE INTEREST	_____
INDIFFERENCE	_____
MODERATE RESISTANCE	_____
STRONG DISLIKE	_____
HARD TO RATE	_____

6. Equipment in kit: ☐ None ☐ Satisfactory ☐ Too fragile complicated to use ☐ Too difficult7. Equipment I got: ☐ None needed ☐ Easy to get but okay ☐ Hard to get, add to kit ☐ Unobtainable, add to kit

8. Materials used:	Worksheet #	Game #	Slides (show slide nos.)	Transparency #	Card(s) #	Tape(s) #	Other #
Worthwhile as is							
Revise slightly							
Revise much							
Worthless: omit							

9. Maturity level is ☐ just right ☐ too childish ☐ too mature Explain:10. Vocabulary level is ☐ just right ☐ too easy ☐ too difficult Explain:11. Were teacher instructions clear enough to follow? ☐ Yes ☐ No - Pages and Problem:12. Were clues to success and reviews of success helpful? ☐ Yes ☐ No - Why not?13. Did the activity fulfill the purpose stated by the Guide? ☐ Yes ☐ No - Comment:14. Were any parts of this activity omitted? ☐ No ☐ Yes - Explain:

15. Your rating of this activity:

☐ Worthwhile ☐ Of value--needs the revision suggested ☐ Worth salvaging--make major changes described ☐ Worthless --drop it



[illegible]

9. Maturity level is ☐ just right ☐ too childish ☐ too mature Explain:
10. Vocabulary level is ☐ just right ☐ too easy ☐ too difficult Explain:
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--keep as is revision suggested major changes described --drop it
- SPECIFIC CONCERNS ABOUT THIS ACTIVITY:
16. There are always parts of activities that are good and need not be changed.  
What parts of this activity should be retained when the curriculum is revised?  
Page(s) \_\_\_\_\_ :

17. Did pupils have difficulty seeing the line of mercury in the thermometer?

Yes No: Comment.

18. Did students object to the model thermometer because it was felt to be babyish?

19. Concern (or questions) about content:

20. Messages for staff (read immediately):

Have you answered each question, attached annotated Guide, your revisions, student work, etc.?

UNIT 1, CORE B  
ACTIVITY 1-10: "Reading A Thermometer"

Teacher \_\_\_\_\_

## REPORT OF WHAT HAPPENED AND SUGGESTIONS FOR REVISION

1. Whenever practical write all over your second copy of the Guide. Tear out the activity and send the annotated Guide in with this form.
2. Make specific suggestions - exactly what you think should appear in the Guide.
3. Tell us what you did. Think of what you needed, what you had to work out for yourself, how you presented something to make it go over.
4. Describe the revisions you said were needed in answering the questions on the other side of this form.
5. As a reminder of things that help in revision, read through the following list and check off things you want to be sure to note this time. (We know you can't tell about everything every time!)

## THE LESSON

- ☐ how you organized materials or class.
- ☐ things added (a question, a picture, etc.).
- ☐ equipment, supplies, visual aids.
- ☐ things that went wrong, misunderstandings.
- ☐ what you would do differently or avoid next time.
- ☐ turmoil in the class caused by the activity, or disruptive students, or interruptions, and how you dealt with them.

## THE STUDENTS

- ☐ who had problems and what they were.
- ☐ how someone "caught on" (or who never did).
- ☐ who was really "turned off" (or on).
- ☐ reactions of parents, teachers, students.
- ☐ special evidence of learning or applying ideas.



## Me and my Environment

### OBJECTIVE FOCUS FOR THIS ACTIVITY

#### UNIT GOALS:

1. Explore his immediate environment through a variety of sensory experiences and physical contacts.
2. Recognize the environmental components essential for all living things.
3. Create a greater interest in, and a more sensitive attitude toward, his environment.
4. Understand that his environment includes the whole Earth.

#### CORE B OBJECTIVES:

1. Explore a variety of environmental components and examine their properties and characteristics.
3. Practice making estimates and predictions.
4. Determine new relationships he has with his environment.

### MATERIALS

### TEACHING STRATEGIES

#### Activity 1-20. Temperatures In My Outside Environment

*Before this activity is conducted, assessment will be made of the student's ability to read a thermometer. In addition, the student will be checked on whether he is able to observe something new about the class animals or plants. Once the student has learned to read a thermometer and has observed how temperature affects himself and other living things, he will go outside and measure temperature variations within his outside*

THIS ACTIVITY

...re his immediate environment through  
...riety of sensory experiences and  
...ical contacts.

...gnize the environmental components  
...ntial for all living things.

...te a greater interest in, and a more  
...ative attitude toward, his environment.

...rstand that his environment includes  
...hole Earth.

IVES:

...ore a variety of environmental  
...ponents and examine their properties  
...characteristics.

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...rmine new relationships he has with  
...environment.

TEACHING STRATEGIESTemperatures In My Outside Environment

...ity is conducted, assessment will be  
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...tudent will be checked on whether he  
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...living things, he will go outside and  
...e variations within his outside

UNIT I.

EXPLORING MY ENVIRONMENT

**BSCS**

CORE B.

INVESTIGATING MY  
ENVIRONMENT

ACTIVITY 1-20.

TEMPERATURES IN MY  
OUTSIDE ENVIRONMENTANTICIPATED STUDENT BEHAVIORS

At the end of this activity, each student should:

- have read a thermometer.
- have observed something new about the class animal or plants.
- have taken and recorded temperatures in various areas out of doors.
- have recognized that there are temperature variations in the outside environment that are greater than in the inside environment.

## ACTIVITY 1-20

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## MATERIALS

Thermometer (Fahrenheit) for each pair of students

3 Beakers (large)

\*Ice

\*Water

\*Materials for making a chart to record temperatures for two weeks

\*Not furnished in materials kit

## TEACHING STRATEGIES

*environment. By looking for the hottest and coldest temperature, he will realize the variety of temperatures outside and conclude that the range of temperatures outside is usually greater than inside.*

CLUES

### Teacher Preparation:

Set up three large beakers on your desk with water in them. One beaker should have some ice in it so the temperature will be cold. A second beaker should contain water at room temperature. The third beaker should contain very hot water. Have three thermometers available.

Read Tallysheet 1-3 and have it at your desk for use in assessment.

Begin by saying:

TODAY YOU ARE GOING TO LOOK AT THE PLANTS AND ANIMALS IN THE ROOM TO SEE IF YOU CAN FIND SOMETHING THAT YOU HAVE NEVER SEEN BEFORE OR SOME KIND OF CHANGE THAT HAS HAPPENED SINCE THE LAST TIME YOU LOOKED AT THE PLANT OR ANIMAL. THEN I WILL ASK YOU TO COME UP TO MY DESK TO TELL ME WHAT YOU SAW OR WHAT HAS CHANGED. I WILL ALSO ASK YOU TO READ THE TEMPERATURE ON A THERMOMETER SO I CAN FIND OUT WHO NEEDS MORE PRACTICE IN READING A THERMOMETER.

Allow students to observe for several minutes before calling them to your desk. While they are observing, put the thermometers in the beakers on your desk.

## TEACHING STRATEGIES

ing for the hottest and coldest  
realize the variety of temperatures  
that the range of temperatures out-  
ter than inside.

## CLUES TO SUCCESS



beakers on your desk with water in  
ould have some ice in it so the  
cold. A second beaker should contain  
ature. The third beaker should con-  
Have three thermometers available.

and have it at your desk for use in

ING TO LOOK AT THE PLANTS AND  
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serve for several minutes before  
desk. While they are observing, put  
the beakers on your desk.

## ANTICIPATED STUDENT BEHAVIORS

At the end of this activity, each student should:

--have concluded that inside temperatures can be  
controlled and therefore don't usually vary much.

## MATERIALS

## TEACHING STRATEGIES

Ask the student what his observation is and jot it down on Tallysheet 1-3 on the space provided.

Next, move one of the beakers with its thermometer near the student and ask the student to read the thermometer. If the student reads it correctly within two degrees circle "yes" on the tallysheet. If he is incorrect, circle "no."

NOTE: If the thermometer is removed from the water for reading, the temperature will change rapidly, making it difficult to check the accuracy of the reading.

Repeat this procedure for each student. Rotate the beakers used so the students cannot exchange information or reveal the temperature through a loudly stated response.

If many students were unable to read the thermometer, provide additional practice before proceeding in this activity. If only a few students are unable to read the thermometer, give them additional practice when the other students are collecting temperatures as provided in this activity.

Begin the next part of this activity by saying:

WE HAVE BEEN MEASURING THE TEMPERATURE OF SOME THINGS INSIDE. LET'S GO OUTSIDE AND MEASURE THE TEMPERATURE OF SOME PARTS OF OUR ENVIRONMENT.

DO YOU SUPPOSE THE GROUND IS THE SAME TEMPERATURE AS THE AIR?

WHY? OR WHY NOT?

DO YOU SUPPOSE THAT THE WATER IN THE POND IS THE SAME TEMPERATURE AS THE SIDEWALK?

## TEACHING STRATEGIES

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the beakers with its thermometer near the student to read the thermometer. Does it correctly within two degrees on the tallysheet. If he is incorrect, circle

thermometer is removed from the water for the temperature will change rapidly, difficult to check the accuracy of the

ture for each student. Rotate the students so they cannot exchange information. Measure temperature through a loudly stated response.

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MEASURING THE TEMPERATURE OF SOME  
LET'S GO OUTSIDE AND MEASURE  
THE TEMPERATURE OF SOME PARTS OF OUR ENVIRON-

THE TEMPERATURE OF THE GROUND IS THE SAME TEMPERATURE AS THE AIR?

NOT?

THE TEMPERATURE OF THE WATER IN THE POND IS THE SAME TEMPERATURE AS THE SIDEWALK?

## ANTICIPATED STUDENT BEHAVIORS

ACTIVITY 1-20

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ACTIVITY 1-20

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## MATERIALS

## TEACHING STRATEGIES

WHY? OR WHY NOT?

DO YOU SUPPOSE THE WATER IN THE DRINKING  
FOUNTAIN IS THE SAME TEMPERATURE AS THE AIR?

WHY? OR WHY NOT? etc.

Divide the class into groups of two and ask each group to secure a piece of paper and write "Place" on the top left side, and "Temperature" on the top right side. Write these words on the chalkboard to assist the students in spelling.

Give each pair of students a thermometer and say:

IN A MOMENT WE ARE GOING OUTSIDE TO TAKE  
TEMPERATURES. USE YOUR PENCIL AND PAPER TO  
WRITE DOWN THE TEMPERATURES YOU MEASURE AND  
THE PLACES WHERE YOU TAKE THE MEASUREMENTS.  
YOUR JOB IS TO GO OUTSIDE AND FIND THE COLDEST  
PLACE OR THING AND THE WARMEST PLACE OR THING.  
TO FIND THEM YOU'LL PROBABLY HAVE TO TAKE THE  
TEMPERATURE OF MANY OBJECTS. DON'T FORGET  
TO WRITE EACH TEMPERATURE AND PLACE DOWN ON  
YOUR PAPER.

Proceed outside to measure and record temperatures.



WORK  
TIME

HAVE FUN TA  
TEMPERATU

## TEACHING STRATEGIES

WHY NOT?

SUPPOSE THE WATER IN THE DRINKING  
CUP IS THE SAME TEMPERATURE AS THE AIR?

WHY NOT? etc.

Divide students into groups of two and ask each group to  
prepare a sheet of paper and write "Place" on the top left  
corner and "Temperature" on the top right side. Write  
on the chalkboard to assist the students in

Give each student a thermometer and say:

LET'S GO OUTSIDE TO TAKE  
TEMPERATURES. USE YOUR PENCIL AND PAPER TO  
RECORD THE TEMPERATURES YOU MEASURE AND  
NOTE WHERE YOU TAKE THE MEASUREMENTS.  
GO OUTSIDE AND FIND THE COLDEST  
THING AND THE WARMEST PLACE OR THING.  
REMEMBER YOU'LL PROBABLY HAVE TO TAKE THE  
TEMPERATURE OF MANY OBJECTS. DON'T FORGET  
TO RECORD EACH TEMPERATURE AND PLACE DOWN ON

Go outside to measure and record temperatures.

## ANTICIPATED STUDENT BEHAVIORS

Students:

--predict whether or not the temperature is the  
same in various areas.

--measure and record temperatures at selected sites.



HAVE FUN TAKING  
TEMPERATURES

## MATERIALS

## TEACHING STRATEGIES

Upon returning to the classroom ask:

DID YOU FIND THAT THE TEMPERATURE WAS THE SAME  
EVERYWHERE OUTSIDE?

(Student's name), WHAT WAS THE COOLEST PLACE  
OUTSIDE THAT YOU FOUND?

WHAT WAS THE TEMPERATURE OF THAT PLACE?

DID ANYONE ELSE MEASURE THE SAME TEMPERATURE?

DID ALL OF YOU GET THE SAME TEMPERATURE?

If there is a disagreement about the temperature of a  
particular place allow the students to go outside and  
check it.

WHY DO YOU THINK THAT WAS THE COOLEST PLACE?

DID ANYBODY FIND A PLACE THAT WAS COOLER?

If someone did, ask:

WHAT WAS THE PLACE AND TEMPERATURE THAT YOU  
FOUND?

Continue in this manner until the class has decided on the  
coldest place. Repeat the questioning above, this time  
asking about the warmest place.

Now ask the students to put a number "1" on the paper by  
the coldest place, a number "2" by the next coldest place  
and so on until they have ordered the temperatures from  
coldest to warmest.

## TEACHING STRATEGIES

classroom ask:

WAS THE TEMPERATURE THE SAME  
HERE?

WHAT WAS THE COOLEST PLACE  
FOUND?

TEMPERATURE OF THAT PLACE?

MEASURE THE SAME TEMPERATURE?

GET THE SAME TEMPERATURE?

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## ANTICIPATED STUDENT BEHAVIORS

ACTIVITY 1-20

151

Students:

--say, "No."

--examine their papers and determine the coolest  
place.

--respond by reporting the temperature.

--indicate, "Yes," "No."

--respond, "Yes," "No," "Just about."

--respond, "It was in the shade," "Where the wind  
was blowing," etc.

--respond, "Yes," "No."

--respond by reporting the temperature.

ACTIVITY 1-20

152

## MATERIALS

## TEACHING STRATEGIES

Then ask:

WERE ANY OF THE TEMPERATURES ON YOUR LIST THE SAME?

WHY?

IF WE TOOK THE TEMPERATURE OF MANY PLACES INSIDE OUR ROOM WOULD WE HAVE AS MANY DIFFERENT TEMPERATURES?

WHY?

WHAT CONTROLS THE OUTSIDE TEMPERATURE?

WHAT CONTROLS THE INSIDE TEMPERATURE?

WHY DO WE CONTROL THE INSIDE TEMPERATURE?

WHY THEN DO WE FIND MANY MORE DIFFERENT TEMPERATURES OUTSIDE THEN WE DO INSIDE?

Now assign the students to teams consisting of about four students each. Divide the number of teams evenly so that half of them take and record the classroom temperature while the other half take and record the outside temperature. Caution the students to take the air temperature at the same location and height, and with the thermometer shaded. Have each team record the temperatures on a teacher-made chart for a two week period.

The purpose of the chart is to assist students in visualizing the temperature change or lack of change. This manner of recording will be helpful for students to recall in future activities when graphing is developed.

## ING STRATEGIES

TEMPERATURES ON YOUR LIST THE

TEMPERATURE OF MANY PLACES  
OULD WE HAVE AS MANY  
URES?

OUTSIDE TEMPERATURE?

INSIDE TEMPERATURE?

THE INSIDE TEMPERATURE?

D MANY MORE DIFFERENT  
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a two week period.

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change or lack of change. This  
will be helpful for students to recall  
when graphing is developed.

## ANTICIPATED STUDENT BEHAVIORS

Students:

--probably respond, "No."

--respond, "Because they were taken in different  
places."

--predict, "No."

--respond, "Because it's all one room," "It's all  
heated the same," etc.

--respond, "The weather," "The sun," "Nature."

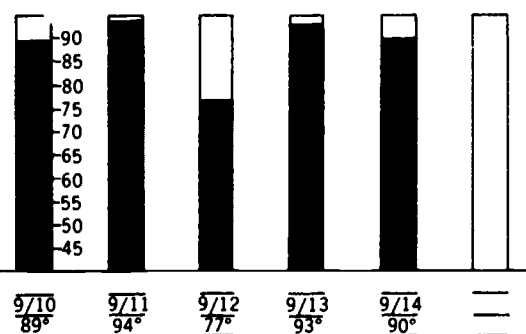
--respond, "You do," "The furnace," etc.

--respond, "So we will be more comfortable," "So  
it remains the same from one time to the next."

--conclude and respond, "Because we can control the  
inside temperature but not the outside."

## MATERIALS

Diagram 1-9



## TEACHING STRATEGIES

Make one large chart for each team as illustrated in Diagram 1-9. Draw ten rectangles of the same height parallel to one another. Indicate degrees beside each rectangle. Below each of the rectangles, make three parallel lines between which students will record the temperature observed and the date of the observation (as shown in Diagram 1-9). Instruct the students to shade in the temperature on each rectangle with crayon or colored pencil.

After the record has been kept for about two weeks, repeat and discuss these questions:

DID THE TEMPERATURE VARY MORE OUTSIDE OR INSIDE?

WHY?

WHAT CONTROLS THE OUTSIDE TEMPERATURE?

WHAT CONTROLS THE INSIDE TEMPERATURE?

WHY DO WE CONTROL THE INSIDE TEMPERATURE?

WHY DID WE MAKE A PICTURE TO SHOW THE TEMPERATURE CHANGE?

## STRATEGIES

each team as illustrated in  
triangles of the same height  
Indicate degrees beside each  
the rectangles, make three  
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s:

ARY MORE OUTSIDE OR INSIDE?

SIDE TEMPERATURE?

IDE TEMPERATURE?

INSIDE TEMPERATURE?

TURE TO SHOW THE

## ANTICIPATED STUDENT BEHAVIORS

ACTIVITY 1-20

153

Students:

--respond, "Outside."

--respond, "Building is heated," "Building is air  
conditioned."

--respond, "The weather," "The sun," "Nature," etc.

--respond, "You do," "The furnace," etc.

--respond, "So we will be more comfortable."

--decide that it was easier to understand how much  
the temperature changed by seeing a picture of  
the changes.



Teacher \_\_\_\_\_  
Date \_\_\_\_\_

UNIT 1, CORL B  
TALLY SHEET 1-3: Awareness of Changes and Ability to Read a Thermometer  
ACTIVITY 1-20: "Temperature In My Outside Environment"

Follow the strategy outlined at the beginning of Activity 1-19 to check on each student's ability to note something new in the environment and to accurately read a thermometer. Select a place to talk to each student when he cannot be readily overheard by others.

Observation or Change. In the first column below write down the new observation or change mentioned by each student. A short phrase is sufficient. Use this information to decide whether you need to help some students observe and describe their environment. Be sure to discuss with the class all the things they mentioned after you complete this tally.

Thermometer Reading. In the second column, circle "Yes" if the student read a thermometer correctly within two degrees of the correct temperature. Circle "No" if the student read it less accurately. Circle X if the student could not read it or was way off. Give these children special attention and review. Decide whether the whole class needs further practice or is ready to go on with Activity 1-19.

Attach ID list here.	Observation or Change	Thermometer Reading	
		Yes	No X
01		Yes	No X
		Yes	No X
		Yes	No X
		Yes	No X
		Yes	No X
		Yes	No X
		Yes	No X
		Yes	No X
		Yes	No X
		Yes	No X
		Yes	No X
		Yes	No X
		Yes	No X
		Yes	No X
		Yes	No X
		Yes	No X
		Yes	No X
		Yes	No X
		Yes	No X
		Yes	No X



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Full Text Provided by ERIC

Thermometer Reading. In the second column, circle "Yes" if the student read a thermometer correctly within two degrees of the correct temperature. Circle "No" if the student read it less accurately. Circle X if the student could not read it or was way off. Give these children special attention and review. Decide whether the whole class needs further practice or is ready to go on with Activity 1-10.

[illegible]

## ACTIVITY 1-20: "Temperatures In My Outside Environment"

Teacher

Activity name suggested by class:

BSCS USE:	Post	Tally	Rev		
Day 1	Day 2	Day 3	Day 4	Day 5	Day 6

1.	Date taught (month and date, e.g. 11/2)					
2.	Minutes of class time on science each day					
3.	Minutes of preparation each day					
4.	Students absent on each date (Use ID Number)					

5. Interest of class as expressed by apparent attention to what is happening.Number of students responding with: Name students you noted especially:  
(Number)

HIGH INTEREST	_____	_____	_____	_____	_____
MODERATE INTEREST	_____	_____	_____	_____	_____
INDIFFERENCE	_____	_____	_____	_____	_____
MODERATE RESISTANCE	_____	_____	_____	_____	_____
STRONG DISLIKE	_____	_____	_____	_____	_____
HARD TO RATE	_____	_____	_____	_____	_____

6. Equipment in kit: ☐ None ☐ Satisfactory ☐ Too fragile ☐ Too complicated ☐ Difficult to use
7. Equipment I got: ☐ None ☐ Easy to get ☐ Hard to get, but okay ☐ Hard to get, add to kit ☐ Unobtainable, add to kit

Materials used:	Worksheet #	Game #	Slides (show slide nos.)	Transparency #	Card(s) #	Tape(s) #	Other #
Worthwhile as is							
Revise slightly							
Revise much							
Worthless: omit							

9. Maturity level is ☐ just right ☐ too childish ☐ too mature Explain:
10. Vocabulary level is ☐ just right ☐ too easy ☐ too difficult Explain:
11. Were teacher instructions clear enough to follow? ☐ Yes ☐ No - Pages and Problem:
12. Were clues to success and reviews of success helpful? ☐ Yes ☐ No - Why not?
13. Did the activity fulfill the purpose stated by the Guide? ☐ Yes ☐ No - Comment:
14. Were any parts of this activity omitted? ☐ No ☐ Yes - Explain:

15. Your rating of this activity:  
☐ Worthwhile ☐ Of value--needs the ☐ Worth salvaging--make ☐ Worthless  
--keep as is revision suggested major changes described --drop it

[illegible]

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--keep as is revision suggested major changes described --drop it
- SPECIFIC CONCERNS ABOUT THIS ACTIVITY: \_\_\_\_\_

16. There are always parts of activities that are good and need not be changed. What parts of this activity should be retained when the curriculum is revised?

Page(s) :

Page(s) ::

17. Were students interested in keeping a record of temperatures for a specific area?  
☐ Yes ☐ No: Comment.
18. Did students disagree often about temperature of a particular place?  
☐ No ☐ Yes: Comment.
19. Please complete Tallysheet 1-3 and send it in with this feedback sheet.
20. Concern (or questions) about content:
21. Messages for staff (read immediately):

BSCS Evaluation: EMH Feedback Form 1c

**Have you answered each question, attached annotated Guide, your revisions, student work, etc.?**

**Y 1018**

Teacher \_\_\_\_\_

# REPORT OF WHAT HAPPENED AND SUGGESTIONS FOR REVISION

1. Whenever practical write all over your second copy of the Guide. Tear out the activity and send the annotated Guide in with this form.
2. Make specific suggestions - exactly what you think should appear in the Guide. Tell us what you did. Think of what you needed, what you had to work out for yourself, how you presented something to make it go over.
3. Describe the revisions you said were needed in answering the questions on the other side of this form.
4. As a reminder of things that help in revision, read through the following list and check off things you want to be sure to note this time. (We know you can't tell about everything every time!)

## THE STUDENTS

- |   |  |
|---|--|
| <p>THE LESSON</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> how you organized materials or class.</li> <li><input type="checkbox"/> things added (a question, a picture, etc.).</li> <li><input type="checkbox"/> equipment, supplies, visual aids.</li> <li><input type="checkbox"/> things that went wrong, misunderstandings.</li> <li><input type="checkbox"/> what you would do differently or avoid next time.</li> <li><input type="checkbox"/> turmoil in the class caused by the activity, or disruptive students, or interruptions, and how you dealt with them.</li> </ul> | <ul style="list-style-type: none"> <li><input type="checkbox"/> who had problems and what they were.</li> <li><input type="checkbox"/> how someone "caught on" (or who never did).</li> <li><input type="checkbox"/> who was really "turned off" (or on).</li> <li><input type="checkbox"/> reactions of parents, teachers, students.</li> <li><input type="checkbox"/> special evidence of learning or applying ideas.</li> </ul> |
|---|--|



## Me and my Environment

### OBJECTIVE FOCUS FOR THIS ACTIVITY

#### UNIT GOALS:

1. Explore his immediate environment through a variety of sensory experiences and physical contacts.
3. Create a greater interest in, and a more sensitive attitude toward, his environment.
4. Understand that his environment includes the whole Earth.

#### CORE B OBJECTIVES:

3. Practice making estimates and predictions.
4. Determine new relationships he has with his environment.

### MATERIALS

### TEACHING STRATEGIES

#### Activity 1-21. Measurement In My Environment

*The purpose of this activity is to have the student realize that measurement is an important and necessary device for communicating information about himself and his environment. Students will also come to realize through practical experiences, that a standard unit of measurement is needed for accurate communication.*

## FOR THE ACTIVITY

Explore his immediate environment through a variety of sensory experiences and physical contacts.

Create a greater interest in, and a more sensitive attitude toward, his environment.

Understand that his environment includes the whole Earth.

## OBJECTIVES:

Practice making estimates and predictions.

Determine new relationships he has with his environment.

## UNIT I.

## EXPLORING MY ENVIRONMENT

## CORE B.

## INVESTIGATING MY ENVIRONMENT



BSCS

## ACTIVITY 1-21. MEASUREMENT IN MY ENVIRONMENT

## TEACHING STRATEGIES

Measurement In My Environment

*this activity is to have the student measure. Measurement is an important and necessary part of communicating information about himself and the world. Students will also come to realize that through physical experiences, that a standard unit of measurement is needed for accurate communication.*

## ANTICIPATED STUDENT BEHAVIORS

*At the end of this activity, each student should:*

- have concluded that standard units of measurement are necessary to communicate certain kinds of information.*
- have practiced estimating sizes of various objects and distances.*
- have accurately measured in inches a number of objects in the classroom.*

ACTIVITY 1-21

156

MATERIALS

\*String  
\*Rulers (one per student)  
Worksheet 1-8  
\*Scissors  
Camera (Polaroid Square Shooter)

\*Not furnished in materials kit

TEACHING STRATEGIES

Begin this activity by asking:

CAN YOU GUESS WHAT THE TEMPERATURE IS IN OUR ROOM TODAY?

IF YOU DIDN'T WANT TO JUST GUESS WHAT COULD YOU DO?

Then say:

WE HAVE LEARNED THAT A THERMOMETER CAN BE USED TO MEASURE TEMPERATURE. WHAT ARE SOME OTHER THINGS IN OUR ENVIRONMENT THAT WE CAN MEASURE?

Then ask this series of questions as appropriate:

CAN PEOPLE MEASURE SPEEDS?

WITH WHAT?

CAN WE MEASURE RAINFALL?

HOW?

CAN WE MEASURE GASOLINE?

HOW?

GIVE STUDENTS  
TIME  
TO  
THINK



## CHING STRATEGIES

by asking:

WHAT THE TEMPERATURE IS IN OUR

WANT TO JUST GUESS WHAT COULD

DO THAT A THERMOMETER CAN BE USED  
PERATURE. WHAT ARE SOME OTHER  
ENVIRONMENT THAT WE CAN MEASURE?

s of questions as appropriate:

URE SPEEDS?

RAINFALL?

GASOLINE?

## ANTICIPATED STUDENT BEHAVIORS

Students:

--respond with various guesses of the temperature  
in the room.

--respond, "Measure," "Get a thermometer."

--will respond with a variety of things such as:  
humidity, wind speed, amount of rainfall, dis-  
tances, speeds, etc.

**GIVE STUDENTS  
TIME  
TO  
THINK**

--respond, "Yes."

--respond, "Speedometer."

--respond, "Yes."

--respond, "Collect the rain."

--respond, "Yes."

--respond, "By gallons," "With a pump."

## MATERIALS

## TEACHING STRATEGIES

CAN WE MEASURE MILK?

HOW?

CAN WE MEASURE EVERYTHING?

CAN WE MEASURE FUN? HATE? LOVE?

Continue by asking:

CAN WE MEASURE LENGTH?

WHAT CAN WE USE TO MEASURE LENGTH?

Then say:

I WANT YOU TO MEASURE HOW WIDE YOUR TABLE  
(desk) IS WITHOUT USING A RULER. WHEN YOU HAVE  
FINISHED, TELL ME HOW WIDE IT IS.

ALLOW SUFFICIENT TIME FOR  
TO THINK AND OBSERVE ACTION

Observe the class. If at least one of the students is  
successful in inventing a unit of measurement such as a  
book, hand, etc., let him continue and omit the following  
sequence.

If none of the students are successful say:

WATCH WHAT I AM DOING?

Measure the width of your desk or table in  
hands. Then state:

MY DESK (table) IS (15) HANDS WIDE.

## TEACHING STRATEGIES

MILK?

EVERYTHING?

FUN? HATE? LOVE?

LENGTH?

TO MEASURE LENGTH?

MEASURE HOW WIDE YOUR TABLE  
WITHOUT USING A RULER. WHEN YOU HAVE  
MEASURED HOW WIDE IT IS.

ALLOW SUFFICIENT TIME FOR STUDENTS  
TO THINK AND OBSERVE ACTIONS OF OTHERS

If at least one of the students is  
measuring a unit of measurement such as a  
hand, let him continue and omit the following

If the students are successful say:

WHAT I AM DOING?

Measure the width of your desk or table in  
hands and state:

(My table) IS (15) HANDS WIDE.

## ANTICIPATED STUDENT BEHAVIORS

ACTIVITY 1-21

(157)

Students:

--respond, "Yes."

--respond, "By the pint," "Quart," "Gallon."

--will give varying responses to this difficult  
question.

--should realize that we cannot measure everything.

--respond, "Yes."

--respond, "A ruler."

--invent a unit of measurement and measure the desk.

--observe the teacher.

ACTIVITY 1-21

158

## MATERIALS

## TEACHING STRATEGIES

Have the students determine how many hands wide their desks are. Then ask:

IS IT OKAY TO MEASURE OUR DESKS IN HANDS?

Now say:

A LONG TIME AGO, PEOPLE DID NOT HAVE RULERS, YARDSTICKS, OR TAPE MEASURES. HOW DO YOU SUPPOSE THEY FOUND OUT HOW BIG THINGS WERE?

If some of the students were successful in inventing units of measurement other than rulers, use the following strategy.

Call on one of the students who has created a unit other than rulers and ask:

(Student's name), HOW WIDE IS YOUR DESK?

Then say:

DO YOU THINK IT IS OKAY TO MEASURE THE DESK IN (insert units used by student)?

Now say:

A LONG TIME AGO, PEOPLE DID NOT HAVE RULERS, YARDSTICKS, OR TAPE MEASURES. HOW DO YOU THINK THEY FOUND OUT HOW BIG THINGS WERE?

Continue in either case by asking each student to tell you how many hands wide his desk is and record the number on the chalkboard.

Then say:

ARE ALL OF THE DESKS THE SAME WIDTH?

## TEACHING STRATEGIES

Students determine how many hands wide their desks are. Then ask:

HOW CAN WE MEASURE OUR DESKS IN HANDS?

LONG TIME AGO, PEOPLE DID NOT HAVE RULERS, STICKS, OR TAPE MEASURES. HOW DO YOU THINK THEY FOUND OUT HOW BIG THINGS WERE?

Some of the students were successful in inventing units of measurement other than hands. Use the following strategy.

Ask one of the students who has created a unit other than rulers and ask:

(Student's name), HOW WIDE IS YOUR DESK?

Then say:

DO YOU THINK IT IS OKAY TO MEASURE THE WIDTH OF THE DESK IN (insert units used by student)?

Then say:

LONG TIME AGO, PEOPLE DID NOT HAVE RULERS, STICKS, OR TAPE MEASURES. HOW DO YOU THINK THEY FOUND OUT HOW BIG THINGS WERE?

In other case by asking each student to tell how many hands wide his desk is and record the number on the board.

DO ALL DESKS THE SAME WIDTH?

## ANTICIPATED STUDENT BEHAVIORS

Students:

--respond, "Yes," "No, that's stupid."

--infer that without rulers they probably had to use other units of measure such as hands.

--respond, "It is (student's unit) wide."

--respond, "Yes," "No, don't be stupid."

--infer that they had to use other units.

--respond with the number of hands used to measure the width of their desks.

--respond, "Yes," "No," "Almost."

## MATERIALS

## TEACHING STRATEGIES

DID ALL OF YOU USE THE SAME NUMBER OF HANDS  
WHEN YOU MEASURED THE WIDTHS OF YOUR DESKS?

WHY NOT?

WOULD IT BE BETTER TO USE A RULER RATHER THAN  
YOUR HAND TO MEASURE THE WIDTH OF YOUR DESK?

WHY?

WHY IS IT IMPORTANT THAT WE USE MEASUREMENTS  
SUCH AS INCHES RATHER THAN HANDS?

Students will now continue to estimate lengths and make  
some predictions of lengths before they get out rulers  
and actually measure things in the last part of this  
activity.

Continue by saying:

I WAS TOLD THAT TWICE AROUND A PERSON'S  
THUMB AT ITS WIDEST SPOT IS EQUAL TO ONCE  
AROUND THE PERSON'S WRIST.

HOW COULD WE FIND OUT IF THAT IS TRUE?



## TEACHING STRATEGIES

DO YOU USE THE SAME NUMBER OF HANDS  
TO MEASURE THE WIDTHS OF YOUR DESKS?

IS IT BETTER TO USE A RULER RATHER THAN  
HANDS TO MEASURE THE WIDTH OF YOUR DESK?

IS IT MORE IMPORTANT THAT WE USE MEASUREMENTS  
WITH RULERS RATHER THAN HANDS?

DO YOU CONTINUE TO ESTIMATE LENGTHS AND MAKE  
MEASUREMENTS OF LENGTHS BEFORE THEY GET OUT RULERS  
TO MEASURE THINGS IN THE LAST PART OF THIS

RE:

DO YOU MEASURE TWICE AROUND A PERSON'S  
THUMB AND WIDEST SPOT IS EQUAL TO ONCE  
AROUND A PERSON'S WRIST.

DO YOU FIND OUT IF THAT IS TRUE?

## ANTICIPATED STUDENT BEHAVIORS

ACTIVITY 1-21

159

Students:

--respond, "No."

--infer that the hands vary in size and that  
desks may be of different sizes.

--infer that it would be better to use a ruler.

--conclude that rulers are always the same and  
that hands are not.

--infer that they are always the same.

--suggest measuring twice around the thumb and  
once around the wrist and comparing.



ACTIVITY 1-21

160

**MATERIALS**

**TEACHING STRATEGIES**

Now distribute string and scissors to each pair of students.



Instruct them to wrap a piece of string twice around the widest part of their thumb and then cut the string. Demonstrate this technique if necessary. Then have them cut a piece of string equal to once around their wrist. Have each student set the two strings out in front of him and ask:

ARE THE STRINGS THE SAME LENGTH?

ARE THE TWO STRINGS ALMOST THE SAME LENGTH?

Now say:

TWICE AROUND YOUR WRIST IS EQUAL TO ONCE AROUND YOUR NECK. WITHOUT PUTTING STRING AROUND YOUR NECK CUT A PIECE OF STRING AS BIG AS YOU THINK YOUR NECK IS.

Some students will just guess at this length and cut a piece of string. Others should think to make it twice as long as the wrist string they have in front of them.

Continue by saying:

NOW CUT A PIECE OF STRING THAT IS THE SIZE OF YOUR NECK.



## STRATEGIES

issors to each pair of



ce of string twice around the  
and then cut the string.  
f necessary. Then have them  
to once around their wrist.  
o strings out in front of

ME LENGTH?

MOST THE SAME LENGTH?

IS EQUAL TO ONCE AROUND  
TING STRING AROUND YOUR  
RING AS BIG AS YOU THINK

ss at this length and cut a  
ould think to make it twice as  
ey have in front of them.

ING THAT IS THE SIZE

## ANTICIPATED STUDENT BEHAVIORS

Students:

--observe and compare the two strings and respond  
appropriately.

--observe and compare the two strings and conclude,  
"Yes."

--estimate the size of their neck and cut a piece  
of string accordingly.

--cut a piece of string equal to the size of their  
neck.

## MATERIALS

## TEACHING STRATEGIES

NOW COMPARE YOUR GUESS WITH THE REAL LENGTH.  
WAS YOUR GUESS CLOSE?

IS TWICE AROUND YOUR WRIST EQUAL TO ONCE  
AROUND YOUR NECK?

If this is not too confusing at this point, students can fold the neck string in half and compare that with the wrist string.

Continue with the last part of this estimating sequence by saying the following:

MAKE A STRING THAT IS TWICE AS LONG AS YOUR  
NECK STRING.

Students may have difficulty with this. Watch them carefully and assist them in this task. The idea of laying the string length out twice may prove to be difficult. Let them figure it out for themselves and help only at a minimum.



## TEACHING STRATEGIES

## ANTICIPATED STUDENT BEHAVIORS

ACTIVITY 1-21

161

GUESS WITH THE REAL LENGTH.  
CLOSE?

OUR WRIST EQUAL TO ONCE

Confusing at this point, students can  
in half and compare that with the

Students:

--observe the two strings and respond  
accordingly.

--examine the wrist string and the neck string  
and estimate that one is about twice as long  
as the other.

DEMONSTRATE



part of this estimating sequence  
ing:

AT IS TWICE AS LONG AS YOUR

Difficulty with this. Watch them care-  
in this task. The idea of laying  
twice may prove to be difficult.

themselves and help only at



ACTIVITY 1-21

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**MATERIALS**

**TEACHING STRATEGIES**

When all students have a string twice as long as their neck string, say:

FIND A PART OF YOUR BODY THAT IS AS BIG AROUND AS THIS STRING.

Then ask:

YOUR WAIST IS TWICE AS BIG AROUND AS WHAT PART OF YOUR BODY?

Now ask:

IF YOU WENT INTO A STORE TO BUY SOME CLOTHES AND A CLERK ASKED YOU HOW BIG YOUR WAIST WAS AND YOU SAID, "TWICE AS BIG AS MY NECK," WHAT WOULD THE CLERK DO?

At this time, point out to the students that: twice around your thumb is once around your wrist; twice around your wrist is once around your neck; twice around your neck is once around your waist is interesting and clever but that it has little practical value.

Before students practice using a ruler, have them complete Worksheet 1-8. Use the results of this worksheet only as a guide for yourself in determining how much difficulty your class will have in doing the next part of this activity.

After determining how much previous experience students have had with measurement skills, you will either have to review or introduce the following concepts.

1. Identify which marks on the ruler correspond to inches.

Date \_\_\_\_\_ Time \_\_\_\_\_

Worksheet 1-8

## TEACHING STRATEGIES

ts have a string twice as long as their  
y:

T OF YOUR BODY THAT IS AS BIG  
THIS STRING.

IS TWICE AS BIG AROUND AS WHAT PART  
DY?

T INTO A STORE TO BUY SOME CLOTHES  
K ASKED YOU HOW BIG YOUR WAIST WAS  
ID, "TWICE AS BIG AS MY NECK,"  
THE CLERK DO?

point out to the students that: twice  
umb is once around your wrist; twice around  
nce around your neck; twice around your  
ound your waist is interesting and clever  
little practical value.

practice using a ruler, have them complete  
Use the results of this worksheet only as  
rself in determining how much difficulty  
have in doing the next part of this

ng how much previous experience students  
measurement skills, you will either have to  
duce the following concepts.

which marks on the ruler correspond to

## ANTICIPATED STUDENT BEHAVIORS

Students:

--will try the string around various parts of the  
body and conclude that their waist is the part  
of the body that the string fits.

--respond, "My neck."

--should realize the shortcomings of the measurement  
and respond, "Laugh," "Think I was crazy," etc.

## MATERIALS

## TEACHING STRATEGIES

2. Begin to measure from the end of the ruler that has the "1" on it.
3. The end of the ruler (with the "1" on it) needs to be placed flush against one end of what is to be measured.
4. The number on the ruler that is closest to where the object being measured ends, is the number of units long it is.
5. If the object being measured is longer than one ruler, place one's finger where the ruler ends, lift the ruler, and place the beginning of it next to the finger.

Do not be concerned with the ability to convert feet to inches, feet to yards, etc. If the student at this point can make simple measurements in inches, it will be sufficient.

Then ask:

HOW CAN YOU MEASURE YOUR WAIST?

Now distribute rulers to each student.

Give students a great deal of practice time with the ruler. Have them measure the things outlined below. Circulate among the students as they measure and give them appropriate help. Have them record their measurements on a piece of paper so you can verify that they are measuring correctly. Things they should measure are outlined below:



## TEACHING STRATEGIES

are from the end of the ruler that  
it.

ruler (with the "1" on it) needs  
flush against one end of what is

the ruler that is closest to where  
ing measured ends, is the number of  
is.

being measured is longer than one  
ne's finger where the ruler ends,  
, and place the beginning of it  
nger.

with the ability to convert feet to  
s, etc. If the student at this point  
urements in inches, it will be

SURE YOUR WAIST?

s to each student.



**DISTRIBUTE MATERIALS**

t deal of practice time with the ruler.  
e things outlined below. Circulate  
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hem record their measurements on a  
u can verify that they are measuring  
hey should measure are outlined below:

## ANTICIPATED STUDENT BEHAVIORS

ACTIVITY 1-21

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Students:

--respond, "With a ruler," "Measure the string."

## MATERIALS

## TEACHING STRATEGIES

1. Their waist
2. Their neck
3. Their desk (width)
4. Their math book
5. Their hand span
6. The pond
7. Any other objects you have of interest in your room.



A practical application of the students' ability to measure and estimate distances is found in the use of the Polaroid camera provided in the kit.

Place pieces of masking tape on the floor of your room three, five, and eight feet apart. Have students during free time periods practice focusing the camera at those distances. Have them measure the distances to verify that they are accurate with both the camera and a ruler. After they have become efficient at focusing with the marks on the floor in view, have them estimate distance with objects such as desks in the way.

At this point students should be able to give a possible explanation for blurred pictures that they have produced in the past: they did not estimate the distance accurately, and therefore had the camera focused incorrectly.



## ING STRATEGIES

th)

ts you have of interest in your



of the students' ability to  
stances is found in the use of the  
in the kit.

tape on the floor of your room  
feet apart. Have students during  
ce focusing the camera at those  
asure the distances to verify  
th both the camera and a ruler.  
fficient at focusing with the  
ew, have them estimate distances  
ks in the way.

ould be able to give a possible  
ictures that they have produced  
t estimate the distance accurately,  
amera focused incor ctly.

## ANTICIPATED STUDENT BEHAVIORS

## ACTIVITY 1-21: "Measurement In My Environment"

Teacher

Activity name suggested by class:

BSCS USE:	Post	Day 3	Day 4	Day 5	Day 6	Rev
-----------	------	-------	-------	-------	-------	-----

Day 1	Day 2	Day 3	Day 4	Day 5	Day 6
-------	-------	-------	-------	-------	-------

1.	Date taught (month and date, e.g. 11/2)					
2.	Minutes of class time					
3.	On science each day					
	Minutes of preparation each day					
4.	Students absent on each date (Use ID Number)					

5. Interest of class as expressed by apparent attention to what is happening.

Number of students responding with: Name students you noted especially:

(Number)

HIGH INTEREST	_____
MODERATE INTEREST	_____
INDIFFERENCE	_____
MODERATE RESISTANCE	_____
STRONG DISLIKE	_____
HARD TO RATE	_____

6. Equipment in kit: ☐ None ☐ Satisfactory ☐ Too fragile ☐ Too complicated ☐ Difficult to use7. Equipment I got: ☐ None ☐ Easy to get ☐ Hard to get, but okay ☐ Hard to get, add to kit ☐ Unobtainable, add to kit

8.	Materials used:	Worksheet #	Game #	Slides (show slide nos.)	Transparency #	Card(s) #	Tape(s) #	Other #
	Worthwhile as is							
	Revise slightly							
	Revise much							
	Worthless: omit							

9. Maturity level is ☐ just right ☐ too childish ☐ too mature Explain:10. Vocabulary level is ☐ just right ☐ too easy ☐ too difficult Explain:11. Were teacher instructions clear enough to follow? ☐ Yes ☐ No - Pages and Problem:12. Were clues to success and reviews of success helpful? ☐ Yes ☐ No - Why not?13. Did the activity fulfill the purpose stated by the Guide? ☐ Yes ☐ No - Comment:14. Were any parts of this activity omitted? ☐ No ☐ Yes - Explain:

15. Your rating of this activity:

<input type="checkbox"/> Worthwhile	<input type="checkbox"/> Of value--needs the revision suggested	<input type="checkbox"/> Worth salvaging--make major changes described	<input type="checkbox"/> Worthless --drop: it
-------------------------------------	---	--	---

Materials used:	Worksheet	Game	Slides (show slide nos.)	Transparency	Card(s)	Tape(s)	Other
	#	#	#	#	#	#	#
Worthwhile as is							
Revise slightly							
Revise much							
Worthless: omit							

9. Maturity level is ☐ just right ☐ too childish ☐ too mature Explain:
10. Vocabulary level is ☐ just right ☐ too easy ☐ too difficult Explain:
11. Were teacher instructions clear enough to follow? ☐ Yes ☐ No - Pages and Problem:
12. Were clues to success and reviews of success helpful? ☐ Yes ☐ No - Why not?
13. Did the activity fulfill the purpose stated by the Guide? ☐ Yes ☐ No - Comment:
14. Were any parts of this activity omitted? ☐ No ☐ Yes - Explain:
15. Your rating of this activity:  
☐ Worthwhile ☐ Of value--needs the ☐ Worth salvaging--make ☐ Worthless  
--keep as is revision suggested major changes described --drop it

## SPECIFIC CONCERNS ABOUT THIS ACTIVITY:

16. There are always parts of activities that are good and need not be changed.  
What parts of this activity should be retained when the curriculum is revised?  
Page(s) \_\_\_\_\_:

17. Did all students engage in measuring a number of objects in the classroom?  
☐ Yes ☐ No: If not, why?

18. How many students had difficulty answering the three questions about measuring on Worksheet 1-8?

None ☐ 1/4 ☐ 1/2 ☐ 3/4 ☐ All: Comment.

19. Concern (or questions) about content:

20. Messages for staff (read immediately):

BSCS Evaluation: EMH Feedback Form 1c

Have you answered each question, attached annotated Guide, your revisions, student work, etc.?

UNIT 17, LESSON 17  
ACTIVITY 1-21: "Measurement in My Environment"

Teacher \_\_\_\_\_

## REPORT OF WHAT HAPPENED AND SUGGESTIONS FOR REVISION

1. Whenever practical write all over your second copy of the Guide. Tear out the activity and send the annotated Guide in with this form.
2. Make specific suggestions - exactly what you think should appear in the Guide.
3. Tell us what you did. Think of what you needed, what you had to work out for yourself, how you presented something to make it go over.
4. Describe the revisions you said were needed in answering the questions on the other side of this form.
5. As a reminder of things that help in revision, read through the following list and check off things you want to be sure to note this time. (We know you can't tell about everything every time!)

## THE LESSON

- ☐ how you organized materials or class.
- ☐ things added (a question, a picture, etc.).
- ☐ equipment, supplies, visual aids.
- ☐ things that went wrong, misunderstandings.
- ☐ what you would do differently or avoid next time.

☐ turmoil in the class caused by the activity, or disruptive students, or interruptions, and how you dealt with them.

## THE STUDENTS

- ☐ who had problems and what they were.
- ☐ how someone "caught on" (or who never did).
- ☐ who was really "turned off" (or on).
- ☐ reactions of parents, teachers, students.
- ☐ special evidence of learning or applying ideas.



## Me and my Environment

### OBJECTIVE FOCUS FOR THIS ACTIVITY

#### UNIT GOALS:

1. Explore his immediate environment through a variety of sensory experiences and physical contacts.
4. Understand that his environment includes the whole Earth.

#### CORE B OBJECTIVES:

1. Explore a variety of environmental components and examine their properties and characteristics.
2. Group things according to observable attributes, sources, or functions.
3. Practice making estimates and predictions.
4. Determine new relationships he has with his environment.

### MATERIALS

### TEACHING STRATEGIES

#### Activity 1-22. Review Of Success

*The purpose of this activity is to make the student aware of what he has learned in this core. The exercises provide opportunities for you to praise his success or provide encouragement and further help. Students are asked to estimate and measure length, group objects, and answer several questions.*

FOR THIS ACTIVITY

Explore his immediate environment through a variety of sensory experiences and physical contacts.

Understand that his environment includes the whole Earth.

**OBJECTIVES:**

Explore a variety of environmental components and examine their properties and characteristics.

Group things according to observable attributes, sources, or functions.

Practice making estimates and predictions.

Determine new relationships he has with his environment.

**TEACHING STRATEGIES**

Review Of Success

The purpose of this activity is to make the student aware of what he has learned in this core. The exercise provides opportunities for you to praise his efforts, give encouragement and further help. He is expected to estimate and measure length, and answer several questions.

UNIT I.

EXPLORING MY ENVIRONMENT



**BSCS**

CORE B.

INVESTIGATING MY ENVIRONMENT

ACTIVITY 1-22. REVIEW OF SUCCESS

**ANTICIPATED STUDENT BEHAVIORS**

At the end of this activity, each student should:

- have cut Worksheet 1-9 apart and sorted pictures into plants and animals.
- have estimated and measured the lengths of two strips of paper.
- have answered the questions on Worksheet 1-10.
- have discussed his answers on Worksheets 1-9 and 1-10.

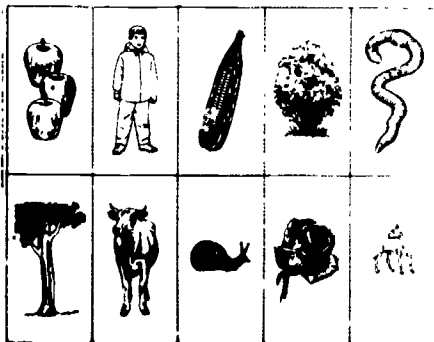
# ACTIVITY 1-22

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## MATERIALS

- \*35mm Slide projector
- Slides 1-36 through 1-40
- Worksheet 1-9
- \*Scissors, one per student
- \*Stapler
- Worksheet 1-10
- \*1 Strip of paper 1" X 8 1/2"
- \*Paper strips, 1 per student
- 1" X 3 1/2"
- 1" X 18"
- \*12" Rulers, 1 per student

Worksheet 1-9



\*Not furnished in materials kit

## TEACHING STRATEGIES

Begin by asking each of the students to take out a pencil and one sheet of paper. Have them write their names at the tops of the pages. Then have each of them write the heading "Plants" on the left side of the page and "Animals" on the right side.

Distribute Worksheet 1-9 and a pair of scissors to each student. First have different students identify the pictures.

Say:

CUT ALL THE PICTURES APART ON THE DOTTED LINES.

When most have finished cutting, say:

NOW TAKE THE PICTURES YOU CUT OUT AND PUT THEM INTO TWO GROUPS -- PLANTS AND ANIMALS. PUT THE PILE OF PLANT PICTURES UNDER THE WORD PLANTS ON YOUR PAPER. PUT THE ANIMAL PICTURES UNDER THE WORD ANIMAL ON YOUR PAPER. RAISE YOUR HAND WHEN YOU HAVE FINISHED AND I WILL STAPLE THE PICTURES TO YOUR PAPER.



## TEACHING STRATEGIES

## ANTICIPATED STUDENT BEHAVIORS

each of the students to take out a pencil paper. Have them write their names at pages. Then have each of them write the on the left side of the page and "Animals" e.

heet 1-9 and a pair of scissors to each have different students identify the



PICTURES APART ON THE DOTTED LINES.

finished cutting, say:

THE PICTURES YOU CUT OUT AND PUT THEM  
GROUPS -- PLANTS AND ANIMALS. PUT THE  
ANT PICTURES UNDER THE WORD PLANTS ON  
PUT THE ANIMAL PICTURES UNDER THE  
ON YOUR PAPER. RAISE YOUR HAND WHEN  
FINISHED AND I WILL STAPLE THE PICTURES



## MATERIALS

Slide 1-36



Worksheet 1-10 (front)

## TEACHING STRATEGIES

Students should have a high degree of success with this activity. As you staple and collect each paper, glance at the plant group. You should find the five plants (apples, bush, corn, rose, tree) and no animals in this pile. Praise the performance (GOOD, YOU GOT THEM ALL RIGHT BUT ONE!) or if there are many mistakes in grouping, give encouragement (THAT IS A GOOD TRY! THIS IS HARD TO DO ISN'T IT?) and plan to help the student at a later time. After class, complete Tallysheet 1-4.

When all papers and scissors have been collected, project Slide 1-36. Have students identify which are plants and animals, answer questions, and again praise their success.

Now distribute Worksheet 1-10 and have students write their names on them.

Say:

WE ARE GOING TO ANSWER SOME QUESTIONS ON THIS WORKSHEET. WRITE DOWN YOUR ANSWER, BUT DO NOT TELL ANYONE WHAT YOUR ANSWER IS UNTIL WE TALK ABOUT IT LATER.

BEFORE WE BEGIN THE WORKSHEET, LOOK AT THIS STRIP OF PAPER.

Hold up the 1" X 8 1/2" strip of paper.

(Student's name), ABOUT HOW LONG DO YOU THINK THIS PIECE OF PAPER IS? CAN YOU MAKE A GOOD GUESS?

If the student does not name inches as a unit of measure, ask if he is talking about yards or feet or inches. Elicit answers from several students and write their estimates on the chalkboard by the phrase, "My Guess."

## TEACHING STRATEGIES

have a high degree of success with this staple and collect each paper, glance up. You should find the five plants (corn, rose, tree) and no animals in this performance (GOOD, YOU GOT THEM ALL RIGHT). There are many mistakes in grouping, give THAT IS A GOOD TRY! THIS IS HARD TO DO. Plan to help the student at a later time. Complete Tallysheet 1-4.

and scissors have been collected, project the students identify which are plants and questions, and again praise their success.

Worksheet 1-10 and have students write their

TO ANSWER SOME QUESTIONS ON THIS WRITE DOWN YOUR ANSWER, BUT DO NOT WHAT YOUR ANSWER IS UNTIL WE TALK LATER.

BEGIN THE WORKSHEET, LOOK AT THIS PAPER.

8 1/2" strip of paper.

(name), ABOUT HOW LONG DO YOU THINK OF PAPER IS? CAN YOU MAKE A GOOD

student does not name inches as a unit of measure, ask if he is talking about yards or inches. Elicit answers from several students and write their estimates on the chalkboard by the phrase, "My Guess."

## ANTICIPATED STUDENT BEHAVIORS

Students:

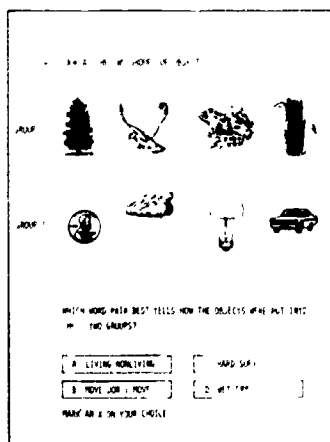
--respond with various lengths from 6" to 12".

# ACTIVITY 1-22

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## MATERIALS

### Worksheet 1-10 (back)



### Slide 1-37

1. GUESS THE LENGTH OF THE SHORT AND LONG STRIPS OF PAPER.  
WRITE YOUR GUESSES ON THE LINES BELOW.

SHORT STRIP      LONG STRIP

MY GUESS \_\_\_\_\_ TIMES      MY GUESS \_\_\_\_\_ TIMES

## TEACHING STRATEGIES

Then say:

HOW CAN WE FIND OUT FOR SURE HOW LONG THE PAPER IS?

Select a volunteer to measure the paper and tell the class its length. Write "8 1/2" on the chalkboard next to a rough sketch of a ruler.

Say:

NOW I AM GOING TO GIVE EACH OF YOU A SHORT STRIP OF PAPER AND A LONG STRIP OF PAPER.

Distribute the strips. Be sure each student has a long and a short strip.

Project Slide 1-37 and say:

LOOK AT NUMBER 1 ON YOUR WORKSHEET. IT SAYS, "GUESS THE LENGTH OF THE SHORT AND LONG STRIPS OF PAPER." FIRST LOOK AT THE SHORT STRIP AND WRITE YOUR BEST GUESS WHERE IT SAYS, "SHORT STRIP MY GUESS \_\_\_\_." THEN LOOK AT THE LONG STRIP AND WRITE YOUR GUESS WHERE IT SAYS, "LONG STRIP. MY GUESS \_\_\_\_."

When all have written a response, pass out a ruler to each student.

## TEACHING STRATEGIES

OUT FOR SURE HOW LONG THE

to measure the paper and tell the class  
"8 1/2" on the chalkboard next to a  
ruler.

TO GIVE EACH OF YOU A SHORT  
AND A LONG STRIP OF PAPER.

ps. Be sure each student has a long

and say:

1 ON YOUR WORKSHEET. IT SAYS,  
GTH OF THE SHORT AND LONG STRIPS  
RST LOOK AT THE SHORT STRIP AND  
T GUESS WHERE IT SAYS, "SHORT STRIP."  
THEN LOOK AT THE LONG STRIP AND  
SS WHERE IT SAYS, "LONG STRIP. MY

en a response, pass out a ruler to

## ANTICIPATED STUDENT BEHAVIORS

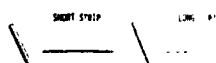
Students:

--respond, "Measure it with a ruler."

## MATERIALS

### Slide 1-38

2. USE YOUR RULER TO MEASURE THE LENGTH OF THE SHORT AND LONG STRIPS OF PAPER. WRITE YOUR ANSWERS BY THE PICTURE OF THE RULER ON THE LINES BELOW.



### Slide 1-39

3. YOU SAW SOMETHING MOVING IN A HOLE. IT WAS EITHER A JELLYFISH OR A JELLYFISH. THE TWO WERE VERY SIMILAR. WHICH SENTENCE BEST DESCRIBES THE MOVING OBJECT? WRITE YOUR CHOICE.

- ☐ A. IT WAS DEAD.
- ☐ B. IT WAS ALIVE.
- ☐ C. IT NEVER LIVED.
- ☐ D. IT WAS EATING.

### Slide 1-40

4. BELOW ARE RECORDS OF THE TEMPERATURE TAKEN AT 11:00 AM IN TWO DIFFERENT PLACES. ONE SHOWS THE TEMPERATURE OUTSIDE OF A SCHOOL HOUSE. THE OTHER SHOWS THE TEMPERATURE IN A CLASSROOM.

OUT	5	5	6	7	8
IN	65	75	85	95	

READ AND TALK ABOUT THE RECORDS THAT SHOW THE OUTSIDE TEMPERATURES.

## TEACHING STRATEGIES

Project Slide 1-38 and say:

LOOK AT NUMBER 2 ON YOUR WORKSHEET. IT SAYS, "USE YOUR RULER TO MEASURE THE LENGTH OF THE SHORT AND LONG STRIPS OF PAPER. WRITE YOUR ANSWERS BY THE PICTURE OF THE RULER ON THE LINES BELOW."

FIRST MEASURE THE SHORT STRIP AND WRITE YOUR ANSWER ON THE LINE BELOW THE WORDS "SHORT STRIP" HERE.

Point to the blank. When students have written their answers for the short strip of paper, direct them to measure the long strip of paper. Then say:

IN A LITTLE WHILE WE WILL TALK ABOUT OUR ANSWERS, BUT FIRST LET'S FINISH THE WORKSHEET.

Continue to project Slides 1-39 and 1-40 and read each question and the answers aloud. Repeat the item a second time and allow ample time for students to mark their worksheets.

After all students have had the opportunity to answer all of the questions, collect the worksheets. Then project each slide and discuss the answers with them. Have them defend their choices. After class, tally the students' answers on Tallysheet 1-4. Consider whether the whole class needs further review or if a few individuals need attention.

DISTRIB

## TEACHING STRATEGIES

## ANTICIPATED STUDENT BEHAVIORS

ACTIVITY 1-22

169



and say:

ON YOUR WORKSHEET. IT SAYS,  
TO MEASURE THE LENGTH OF THE  
TRIPS OF PAPER. WRITE YOUR  
PICTURE OF THE RULER ON THE

THE SHORT STRIP AND WRITE YOUR  
NAME BELOW THE WORDS "SHORT STRIP"

When students have written their  
strip of paper, direct them to  
strip of paper. Then say:

LE WE WILL TALK ABOUT OUR  
FIRST LET'S FINISH THE WORKSHEET.

Slides 1-39 and 1-40 and read each  
items aloud. Repeat the item a second  
time for students to mark their work-

have had the opportunity to answer all  
collect the worksheets. Then project  
the answers with them. Have them  
After class, tally the students'  
1-4. Consider whether the whole  
review or if a few individuals need

Teacher \_\_\_\_\_  
Date \_\_\_\_\_

UNIT 1, CORE B  
TALLYSHEET 1-4: Tally of Plant/Animal Groups and Worksheet 1-10  
ACTIVITY 1-22: "Review Of Success"

Column 1 (Correct Groups). Indicate whether each student's groups were correctly sorted into plants and animals. To do this, check only the plant stack of pictures. Circle yes if all five plants are grouped correctly. Circle no if some of the plants are missing or animals are included.

Column 2 (Errors). Circle any plants that were omitted and any animals that were included in the plant group.

Tally of Worksheet 1-10. See the back of this tallysheet for instructions to score Worksheet 1-10.

		1 (Correct Groups)		Plants				2 (Errors)				Animals			
Attach ID list here.	01	yes	no	apples	bush	corn	rose	tree	boy	cow	dog	snail	worm		
		yes	no	apples	bush	corn	rose	tree	boy	cow	dog	snail	worm		
		yes	no	apples	bush	corn	rose	tree	boy	cow	dog	snail	worm		
		yes	no	apples	bush	corn	rose	tree	boy	cow	dog	snail	worm		
		yes	no	apples	bush	corn	rose	tree	boy	cow	dog	snail	worm		
		yes	no	apples	bush	corn	rose	tree	boy	cow	dog	snail	worm		
		yes	no	apples	bush	corn	rose	tree	boy	cow	dog	snail	worm		
		yes	no	apples	bush	corn	rose	tree	boy	cow	dog	snail	worm		
		yes	no	apples	bush	corn	rose	tree	boy	cow	dog	snail	worm		
		yes	no	apples	bush	corn	rose	tree	boy	cow	dog	snail	worm		
		yes	no	apples	bush	corn	rose	tree	boy	cow	dog	snail	worm		
		yes	no	apples	bush	corn	rose	tree	boy	cow	dog	snail	worm		
		yes	no	apples	bush	corn	rose	tree	boy	cow	dog	snail	worm		

01

[illegible]

2





TOTAL INACCURATE RESPONSES

Interpreting Measurements. Review the measurements recorded above and check each one that is off by more than one-fourth inch. This is a manipulative skill that may require further practice. Look for ways to make this practice fun and interesting.

Does this review give an accurate indication of student understanding?  
If not, what other evidence do you have of student learning?

☐ Yes ☐ No

## ACTIVITY 1-22: "Review of Success"

Activity name suggested by class:

Teacher

BSCS USE:	Post	Tally	Rev		
Day 1	Day 2	Day 3	Day 4	Day 5	Day 6

1.	Date taught (month and date, e.g. 11/2)								
2.	Minutes of class time on science each day								
3.	Minutes of preparation each day								
4.	Students absent on each date (Use ID Number)								

5. Interest of class as expressed by apparent attention to what is happening.Number of students responding with: Name students you noted especially:  
(Number)

HIGH INTEREST	_____	_____	_____	_____	_____
MODERATE INTEREST	_____	_____	_____	_____	_____
INDIFFERENCE	_____	_____	_____	_____	_____
MODERATE RESISTANCE	_____	_____	_____	_____	_____
STRONG DISLIKE	_____	_____	_____	_____	_____
HARD TO RATE	_____	_____	_____	_____	_____

6. Equipment in kit: ☐ None ☐ Satisfactory ☐ Too fragile ☐ Too complicated ☐ Difficult to use7. Equipment I got: ☐ Easy to get ☐ Hard to get, but okay ☐ Hard to get, add to kit ☐ Unobtainable, add to kit

Materials used:	Worksheet #	Game #	Slides (show slide nos.)	Transparency #	Card(s) #	Tape(s) #	Other #
Worthwhile as is							
Revise slightly							
Revise much							
Worthless: omit							

9. Maturity level is ☐ just right ☐ too childish ☐ too mature Explain:10. Vocabulary level is ☐ just right ☐ too easy ☐ too difficult Explain:11. Were teacher instructions clear enough to follow? ☐ Yes ☐ No - Pages and Problem:12. Were clues to success and reviews of success helpful? ☐ Yes ☐ No - Why not?13. Did the activity fulfill the purpose stated by the Guide? ☐ Yes ☐ No - Comment:14. Were any parts of this activity omitted? ☐ No ☐ Yes - Explain:

15. Your rating of this activity:

☐ Worthwhile ☐ Of value--needs the revision suggested ☐ Worth salvaging--make major changes described ☐ Worthless --drop it

Worthwhile as is	#	#	#	#	#	#	#	#	#	#
Revise slightly										
Revise much										
Worthless: omit										

9. Maturity level is ☐ just right ☐ too childish ☐ too mature Explain:
10. Vocabulary level is ☐ just right ☐ too easy ☐ too difficult Explain:
11. Were teacher instructions clear enough to follow? ☐ Yes ☐ No -Pages and Problem:
12. Were clues to success and reviews of success helpful? ☐ Yes ☐ No -Why not?
13. Did the activity fulfill the purpose stated by the Guide? ☐ Yes ☐ No - Comment:
14. Were any parts of this activity omitted? ☐ No ☐ Yes - Explain:
15. Your rating of this activity:  
☐ Worthwhile ☐ Of value--needs the ☐ Worth salvaging--make ☐ Worthless  
--keep as is revision suggested major changes described --drop it  
-----

SPECIFIC CONCERNS ABOUT THIS ACTIVITY:

16. There are always parts of activities that are good and need not be changed.  
What parts of this activity should be retained when the curriculum is revised?  
Page(s) \_\_\_\_\_:

17. Did any students give away the answer to any item on Worksheet 1-9 and 1-10?  
☐ No ☐ Yes: Comment.

18. Please complete Tallysheet 1-4 and the "Reactions to the Core" questionnaire in your Guide and send in with this form.

19. Concern (or questions) about content:

20. Messages for staff (read immediately):

BSCS' Evaluation: EMH Feedback Form 1c

Have you answered each question, attached annotated Guide, your revisions, student work, etc.?

SIDE A

UNIT I, CORE B  
ACTIVITY 1-22: "Review Of Success"

Teacher \_\_\_\_\_

REPORT OF WHAT HAPPENED AND SUGGESTIONS FOR REVISION

1. Whenever practical write all over your second copy of the Guide. Tear out the activity and send the annotated Guide in with this form.
2. Make specific suggestions - exactly what you think should appear in the Guide.
3. Tell us what you did. Think of what you needed, what you had to work out for yourself, how you presented something to make it go over.
4. Describe the revisions you said were needed in answering the questions on the other side of this form.
5. As a reminder of things that help in revision, read through the following list and check off things you want to be sure to note this time. (We know you can't tell about everything every time!)

THE LESSON

- ☐ how you organized materials or class.
- ☐ things added (a question, a picture, etc.).
- ☐ equipment, supplies, visual aids.
- ☐ things that went wrong, misunderstandings.
- ☐ what you would do differently or avoid next time.
- ☐ turmoil in the class caused by the activity, or disruptive students, or interruptions, and how you dealt with them.

THE STUDENTS

- ☐ who had problems and what they were.
- ☐ how someone "caught on" (or who never did).
- ☐ who was really "turned off" (or on).
- ☐ reactions of parents, teachers, students.
- ☐ special evidence of learning or applying ideas.

UNIT I  
REACTIONS TO CORE B

1. Was the background information for this core adequate? ☐ Yes ☐ No  
Comment:
2. Was it clear to you why these particular activities were chosen and the direction they were leading? ☐ Yes ☐ No  
Comment:
3. Did the activities fulfill the purposes stated in the Guide for this core? ☐ Yes ☐ No  
Comment:
4. How would you increase the clarity of this core for students? (Help them understand why they are doing these activities.)
5. Is there a practical (take-home) value for your students in these activities? ☐ Yes ☐ No  
6. If yes, what do you see as the "take-home" lesson? If no, what is needed?
7. In these materials, what things did your students find difficult to do?
8. Should there be more clues to success or reviews of success in this core? ☐ Yes ☐ No  
Comment:
9. Was there too much reading and too many teacher directions? ☐ Yes ☐ No  
Comment:
10. Did you make use of the Planning Guide? ☐ Yes ☐ No  
Comment:

7. In these materials, what things did your students find difficult to do?

8. Should there be more clues to success or reviews of success in this core? ☐ Yes ☐ No  
Comment:

9. Was there too much reading and too many teacher directions? ☐ Yes ☐ No  
Comment:

10. Did you make use of the Planning Guide? ☐ Yes ☐ No  
Comment:

11. If you could teach your way, rather than following the Guide, how would you do it?

12. Which of your students do you believe were unsuccessful in achieving the objectives of this core of activities? Explain.

BSCS Evaluation: EMH Feedback Form 2a

SIDE A

NEW STUDENTS ENTERING DURING THIS CORE

Date Entered	Last Name	Name Used	Ethnic Group	Sex	Birthdate	Test date	Test	Total
			W B S O	M F			W B O	
			W B S O	M F			W B O	
			W B S O	M F			W B O	
			W B S O	M F			W B O	

STUDENTS DROPPED IN THIS PERIOD

Date Dropped	Last Name	First

W = white  
 B = black  
 S = Spanish-  
 American  
 O = other

W = WISC  
 B = Binet  
 O = other  
 (name)

ADDITIONAL INFORMATION ON NEW STUDENTS:



STUDENTS ENTERING DURING THIS CORE

	Birthdate	Test date	Test	Total	Verbal	Performance	Previous Test Score
			W B O				
			W B O				
			W B O				
			W B O				

W = WISC  
B = Binet  
O = other  
(name)



## Me and my Environment

UNIT I. EXPLORING MY ENVIRONMENT

CORE C. LANDMARKS IN MY ENVIRONMENT

### AIMS FOR ME AND MY ENVIRONMENT

1. DEVELOPMENT IN EACH CHILD OF A SENSE OF IDENTITY AS A PERSON WHO HAS SOME DEGREE OF CONTROL OVER AND CAN ACT ON HIS ENVIRONMENT. This will lead to a degree of self-determination based on a rational coping with situations rather than on a passive compliance or an impulsive response to problems.
2. DEVELOPMENT IN EACH CHILD OF A SUCCESS SYNDROME. More than anything else, each activity is intended to be a success experience for each child. It is the teacher's responsibility -- almost obligation -- to see that each child succeeds at a level that is challenging to his abilities and that preserves his self-respect. It is a further responsibility of the teacher to point out his achievement. The students as a group should help each individual fit what he has done into a pattern of accomplishment.
3. DEVELOPMENT IN EACH CHILD OF AN INTEREST THAT COULD BECOME A HOBBY OR AVOCATION OVER A LIFETIME (through an exposure to an array of experiences in science). It is hoped that many children will find some area -- perhaps growing plants, caring for animals, identifying flowers, collecting things, or simply enjoying outings into the country -- that they feel strongly about and can develop some competence or knowledge in. This would provide a means of self-expression, and (perhaps) allow some degree of sharing or involvement with others.
4. DEVELOPMENT IN EACH CHILD OF A SENSE OF RELATIONSHIP AND EMPATHY WITH OTHER LIVING THINGS. It is hoped that this will lead to a positive regard and caring about what affects them as individuals and as a group, because what affects them affects the community of man.
5. DEVELOPMENT IN EACH CHILD OF AN UNDERSTANDING OF ENVIRONMENTAL CONDITIONS that will lead to a sense of responsibility for the environment and actions that protect or improve it.

1. Explore his immediate environment and its physical contacts.
2. Recognize the environmental factors that affect his life.
3. Create a greater interest in his environment.
4. Understand that his environment affects his life.

1. Become aware that there are forces that serve to orient him to his environment.
2. Examine a variety of habitats and the organisms that live in them.
3. Appreciate the aesthetic and scientific value of the environment.
4. Associate the Earth with a sense of responsibility.

UNIT I. EXPLORING MY ENVIRONMENT

CORE C. LANDMARKS IN MY ENVIRONMENT



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UNIT I GOALS

1. Explore his immediate environment through a variety of sensory experiences and physical contacts.
2. Recognize the environmental components essential for all living things.
3. Create a greater interest in, and a more sensitive attitude toward, his environment.
4. Understand that his environment includes the whole Earth.

OBJECTIVES OF CORE C

1. Become aware that there are certain environmental landmarks and that these may serve to orient him to his environment.
2. Examine a variety of habitats.
3. Appreciate the aesthetic and functional qualities of various habitats.
4. Associate the Earth with a finite spaceship.



## Me and my Environment

### UNIT I. EXPLORING MY ENVIRONMENT

#### CORE C. LANDMARKS IN MY ENVIRONMENT

##### CORE C RATIONALE

In the previous cores, students explored and investigated their immediate environment -- the classroom, the school grounds, and so on. Each of us has such an environment, of course; it is that small part of the world that is familiar to us and that we see almost every day. It is becoming increasingly obvious, however, that the entire world is the environment all of us must claim if we are to survive. In this day and age it is difficult to remain isolated from other areas or environments. To be knowledgeable about our immediate environment does not solve the problems associated with the entire world environment. Man is only beginning to see the broad systems of which he is but one of the parts. Because some of man's most pressing environmental problems (overpopulation, depletion of resources, pollution, floods, wise land use) cannot be understood and solved through strictly a local view, it is important that man develop an awareness of the broad features and mechanisms of his environment. The student cannot really appreciate the environmental setting in which he lives without knowing something about the total picture.

The activities in this core have been designed to lead the student toward an understanding of his relationship with the larger environment. To experience vicariously a journey that covers habitats around the world, and then to explore the vastness of space on an imaginary trip to the Moon and back, is a large order. The degree of comprehension will vary considerably with each student, but in a day when extensive TV coverage of space flights is common, this may not be as difficult as one might imagine.

The compass in Activity 1-23 (Establishing Environmental Landmarks) is introduced as a tool to stimulate student interest in establishing the direction of familiar landmarks in his community. From landmarks in the community, the student then is exposed to an imaginary trip to examine habitats for man around the world. Through the discussion of likenesses and

The use of a compass to orient himself to his environment is a familiar activity. The use of a compass needle is a familiar activity. This is the process the student uses when he uses a giant magnet, which is the process of this activity not to be buildings because the Earth's magnetic field is much stronger than to the Earth's.

In Activity 1-23, the student may not have had the opportunity to see a slanted roof will be steeper the roofing hogans and adobe hogans and the lack of vegetation must be low in these areas. The density must be built up in the tropics must allow for the use of the land rather than for utility.

In Activity 1-23, the student uses kinds of materials for the "fun" activity and to develop creativity.

The primary purpose of this activity is to restate and review the concepts learned in the previous activities.

The last activity in this core is a review of the concepts learned from the Moon to Earth.

UNIT I. EXPLORING MY ENVIRONMENT

LESSON C. LANDMARKS IN MY ENVIRONMENT



BSCS

BACKGROUND INFORMATION FOR THE TEACHER

The use of a compass is introduced in Activity 1-23 (Establishing Environmental Landmarks) to stimulate student interest in learning to orient himself to his environment. A magnet is first used because the compass needle is a magnet and most students are familiar with little toy magnets. This makes the compass less formidable as a tool, and in the process the student may understand that the earth itself is like a giant magnet, which is why a compass works. It is important for this activity not to be carried out near steel fences or steel frame buildings because the magnet will then be attracted to metal rather than to the Earth's magnetic poles.

In Activity 1-25 (Homes And Habitats In My World), the students may not have had the necessary experience to know why certain structures may or may not be suited to a particular environment. Through the use of questions, and with careful observation, they should surmise that a slanted roof will shed rain and snow more efficiently, and that the steeper the roofline, the more efficient the shedding will be. Navajo hogans and adobe houses are cool in the summer and warm in the winter, and the lack of vegetation may help the student infer that precipitation must be low in these habitats. Homes in places of high population density must be built to utilize space efficiently. Homes in the tropics must allow for openness. Some homes are designed for aesthetic rather than for utilitarian purposes.

In Activity 1-26 (A Recycled Spaceship), encourage the use of all kinds of materials for making the spaceships. This is primarily a "fun" activity and students should be allowed to express individual creativity.

The primary purpose of Activity 1-27 (To The Moon In Our Room) is to restate and review vital needs in a life support system.

The last activity is a culminating view which spans the distance from the Moon to Earth in order to convey some understanding that the



## Me and my Environment

UNIT I. EXPLORING MY ENVIRONMENT

CORE C. LANDMARKS IN MY ENVIRONMENT

### CORE C RATIONALE (continued)

differences in homes, the student should become aware of the commonality of certain vital needs. As homes are being discussed, an attempt is made to introduce the concept of a habitat as all the things surrounding the place where a person or a living thing is most generally found.

The space flight serves to develop an understanding that there are certain vital life needs that we may sometimes take for granted and which only the earth can provide. A few short activities will hardly suffice to develop a full understanding that the Earth is like a finite spaceship, but students should become aware that it is the only place we know of that can furnish materials necessary for life.

On the return trip from the Moon, at splashdown drops of water are seen on the capsule; then the scene shifts to a drop of water on a leaf. The student is asked to speculate about whether the drop of water could itself be a habitat.

EACH

Earth is the only  
any length of t

## UNIT I. EXPLORING MY ENVIRONMENT

## CORE C. LANDMARKS IN MY ENVIRONMENT



BSCS

## BACKGROUND INFORMATION FOR THE TEACHER (continued)

Earth is the only place we know where vital needs can be supplied for any length of time, and that man is totally dependent upon it.


re of the common-  
scussed, an  
it as all the  
ing thing is

nding that there  
ake for granted  
activities will  
the Earth is like  
that it is the  
essary for life.

... drops of water  
drop of water  
whether the drop

UNIT I  
CORE C

## PLANNING GUIDE

NOTE: Some activities (indicated in italics and an  in the margin) should be prepared several days or weeks in advance. Use a teaching and preparation schedule. All supplies




ERIC  
Full Text Provided by ERIC



# PLANNING GUIDE



BSCS

es (indicated in italics and an  in the margin) must  
several days or weeks in advance. Use this summary as  
and preparation schedule. All supplies needed are listed.


Supplies Needed	Notes and Suggestions to Teacher
Materials in Supply Kit	<i>(Italics and Arrow Indicate Advance Preparation Directions)</i>
Compasses Paper magnets Worksheet 1-11 Slide 1-41	One per student One box 18" Piece per team of three students One per student One per team of three students Treasure Hunt Worksheet 1-11
	<p><i>One per student. Suggested places for securing the maps are given in the activity.</i></p> <p><i>This will serve as a master map.</i></p> <p><i>Directions for making the pins are given in the activity.</i></p>
Slide 1-42 Slide 1-43 Slide 1-44 Slide 1-45 Slide 1-46 Slide 1-47 Slide 1-48	One Alaskan coast Japanese home Farm New Mexico pueblo Small house Modern apartments Mobile homes



## Me and my Environment

### UNIT I CORE C

## PLANNING GUIDE

NOTE: Some activities (indicated in *italics* and an  in the margin) should be prepared several days or weeks in advance. Use this guide to develop a teaching and preparation schedule. All supplies needed are listed.

Activity Number, Page, Tentative Teaching Date	Check List of Supplies Needed		<i>(Italics)</i>
	Materials You Furnish	Materials in Supply Kit	
1-25. Homes And Habitats In My World (Continued)		Slide 1-49 Slide 1-50 Slide 1-51 Slide 1-52 Slide 1-53 Slide 1-54 Slide 1-55 Slide 1-56	Rural home Rural Chinese New York skyline Thailand canal Suburban Swiss Alps Arizona - Navajo Eastern Asia
1-26. A Recycled Spaceship  Page _____ Date planned _____	Styrofoam cups (recycled)  Other scrap materials   Cellophane tape or white glue Scissors Globe	Camera (Polaroid Square Shooter)	Collect in a scrapbook at home, or at school. Collect in a scrapbook. Scrapbook of world Construction paper Paper tubes Plastic bottle Tin cans Wire String, etc.  Class supply One pair per student One

## PLANNING GUIDE



**BSCS**

ties (indicated in *italics* and an *✦* in the margin) must be prepared several days or weeks in advance. Use this summary as a guide for advance preparation schedule. All supplies needed are listed.


Supplies Needed	Notes and Suggestions to Teacher
Materials in Supply Kit	<i>(Italics and Arrow Indicate Advance Preparation Directions)</i>
Slide 1-49 Slide 1-50 Slide 1-51 Slide 1-52 Slide 1-53 Slide 1-54 Slide 1-55 Slide 1-56	Rural home Rural Chinese farm New York skyline Thailand canal house Suburban Swiss Alps Arizona - Navajo hogan Eastern Asian plantation
Camera (Polaroid Square Shooter)	<p>✦ Collect in advance from your teachers' lounge, local restaurant, home, or any other place you can find them. At least five per student.</p> <p>Collect in advance from any available source:</p> <ul style="list-style-type: none"> <li>Scraps of wood</li> <li>Construction paper</li> <li>Paper tubes</li> <li>Plastic bottles</li> <li>Tin cans</li> <li>Wire</li> <li>String, etc.</li> </ul> <p>Class supply</p> <p>One pair per student</p> <p>One</p>



## Me and my Environment

UNIT I  
CORE C

## PLANNING GUIDE


NOTE: Some activities (indicated in italics and an  in the margin) should be prepared several days or weeks in advance. Use this guide to develop a teaching and preparation schedule. All supplies needed are listed in the table.

Activity Number, Page, Tentative Teaching Date	Check List of Supplies Needed		(Italics)
	Materials You Furnish	Materials in Supply Kit	
1-27. To The Moon In Our Room  Page _____ Date planned _____	Large box with cover  Art materials to decorate space capsule  35mm Slide projector	Slide 1-57 Slide 1-58 Slide 1-59 Slide 1-60 Slide 1-61 Slide 1-62 Slide 1-63 Slide 1-64	May be obtained from factory shop  Class supplies Paint, brushes  Starving astronaut Astronaut with Astronaut training Astronaut in Astronaut with Astronaut planning Astronaut running Astronaut out
1-28. Far Out Habitats  Page _____ Date planned _____	35mm Slide projector	Slide 1-65 Slide 1-66 Slide 1-67 Slide 1-68 Slide 1-69 Slide 1-70 Slide 1-71 Slide 1-72 Slide 1-73	Spaceship in Moonscape - Craters and Moonscape - Earth in space Ocean - Blue Ocean - close Splash down Spray of water

## PLANNING GUIDE



BSCS

Activities (indicated in italics and an  in the margin) must be prepared several days or weeks in advance. Use this summary as a planning and preparation schedule. All supplies needed are listed.

List of Supplies Needed	Notes and Suggestions to Teacher (Italics and Arrow Indicate Advance Preparation Directions)
Materials in Supply Kit	
Slide 1-57 Slide 1-58 Slide 1-59 Slide 1-60 Slide 1-61 Slide 1-62 Slide 1-63 Slide 1-64	<p><i>May be obtained from a furniture store, appliance store, factory shipping room, grocery store, etc.</i></p> <p>Class supplies as suggested such as:            Paint, brushes, crayons, construction paper, glue, scissors, etc.</p> <p>Starving astronaut            Astronaut with claustrophobia            Astronaut trying to yell back to earth            Astronaut in the dark            Astronaut with air tube in knot            Astronaut playing checkers with himself            Astronaut running to outhouse            Astronaut out of water</p>
Slide 1-65 Slide 1-66 Slide 1-67 Slide 1-68 Slide 1-69 Slide 1-70 Slide 1-71 Slide 1-72 Slide 1-73	<p>Spaceship in flight            Moonscape - Astronaut on moon            Craters and mountains on moon            Moonscape - Earth rising            Earth in space            Ocean - Blue water, clouds, and land            Ocean - closer view            Splash down capsule            Spray of water on windshield</p>

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## Me and my Environment


UNIT I  
CORE C

## PLANNING GUIDE

NOTE: Some activities (*indicated in italics and an arrow*) be prepared several days or weeks in advance. Use a teaching and preparation schedule. All supplies

Activity Number, Page, Tentative Teaching Date	Check List of Supplies Needed		(Italics)
	Materials You Furnish	Materials in Supply Kit	
1-29. Review Of Success  Page _____ Date planned _____	35mm Slide projector	Worksheet 1-12 Worksheet 1-13 Slide 1-74 Slide 1-75 Slide 1-76 Slide 1-77 Slide 1-78	Review O Review O Review O Review O Review O Review O Review O

## PLANNING GUIDE

ies (indicated in italics and an  in the margin) must  
several days or weeks in advance. Use this summary as  
nd preparation schedule. All supplies needed are listed.



**BSCS**

Supplies Needed	Notes and Suggestions to Teacher
Materials in Supply Kit	<i>(Italics and Arrow Indicate Advance Preparation Directions)</i>
<p>Worksheet 1-12</p> <p>Worksheet 1-13</p> <p>Slide 1-74</p> <p>Slide 1-75</p> <p>Slide 1-76</p> <p>Slide 1-77</p> <p>Slide 1-78</p>	<p>Review Of Success Questions 1-5</p> <p>Review Of Success Questions 6-7</p> <p>Review Of Success Questions 1, 2, and 3</p> <p>Review Of Success Question 4</p> <p>Review Of Success Question 5</p> <p>Review Of Success Question 6</p> <p>Review Of Success Question 7</p>



## Me and my Environment

### OBJECTIVE FOCUS FOR THIS ACTIVITY

#### UNIT GOALS:

1. Explore his immediate environment through a variety of sensory experiences and physical contacts.
3. Create a greater interest in, and a more sensitive attitude toward, his environment.
4. Understand that his environment includes the whole Earth.

#### CORE C OBJECTIVES:

1. Become aware that there are certain environmental landmarks and that these may serve to orient him to his environment.

### MATERIALS

### TEACHING STRATEGIES

#### Activity 1-23. Establishing Environmental Landmarks

*In the preceding cores we have defined, become better acquainted with, and investigated our environment. The intent in this core is to give the student an overview of his total environment.*

*The purpose of this activity is to help the student establish environmental landmarks which will serve to better orient himself in his environment.*



FOR THIS ACTIVITY

Explore his immediate environment through a variety of sensory experiences and physical contacts.

Develop a greater interest in, and a more positive attitude toward, his environment.

Understand that his environment includes the whole Earth.

OBJECTIVES:

Make him aware that there are certain environmental landmarks and that these serve to orient him to his environment.

TEACHING STRATEGIESEstablishing Environmental Landmarks

Through the experiences we have defined, become better oriented and investigated our environment. The purpose is to give the student an overview of his environment.

The purpose of this activity is to help the student identify environmental landmarks which will serve to orient himself in his environment.

## UNIT I.

## EXPLORING MY ENVIRONMENT



## CORE C.

## LANDMARKS IN MY ENVIRONMENT

**BSCS**

## ACTIVITY 1-23.

## ESTABLISHING ENVIRONMENTAL LANDMARKS

ANTICIPATED STUDENT BEHAVIORS

At the end of this activity, each student should:

- have observed a simple compass made from a bar magnet and a string.
- have used a commercial compass to find "North."
- have located some environmental landmarks near his school.
- have practiced measuring and direction skills on Worksheet 1-11.

# ACTIVITY 1-23

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## MATERIALS

Compass (1 per student)  
 Slide 1-41  
 Worksheet 1-11  
 Bar magnet (1 per team of three students)  
 \*String (18" per team of three students)  
 \*Paper clips (one box)  
 \*Rulers (1 per student)  
 \*35mm Slide projector

\*Not furnished in materials kit

## TEACHING STRATEGIES

### Teacher Preparation:

1. When working with the magnets and compasses, students should be taken outside so they can stand apart from one another and therefore prevent the magnets from attracting one another.
2. Do not distribute the compasses until after the students have had an opportunity to work with the magnets. In order to distribute them while the students are out of doors, it will be necessary to have them in a container that can be easily handled.

Distribute a bar magnet to each team of three students.

Then ask:

DO YOU KNOW WHAT THIS BAR IS CALLED?

Introduce the word magnet if students do not know it.

Then ask:

CAN YOU FEEL ANYTHING COMING FROM THE MAGNET?

WHAT CAN MAGNETS DO?

Now allow students to pick up metal objects with their magnets. Have paper clips available for experimentation.



## TEACHING STRATEGIES

tion:

ing with the magnets and compasses,  
should be taken outside so they can  
rt from one another and therefore prevent  
ts from attracting one another.

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have had an opportunity to work with the

In order to distribute them while the  
are out of doors, it will be necessary  
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ar magnet to each team of three students.



DISTRIBUTE MATERIALS

OW WHAT THIS BAR IS CALLED?

word magnet if students do not know it.

EEL ANYTHING COMING FROM THE MAGNET?

MAGNETS DO?

ents to pick up metal objects with their  
paper clips available for experimentation.

## ANTICIPATED STUDENT BEHAVIORS

Students:

--respond, "Magnet," "I don't know."

--respond, "No."

--respond, "Pick up things," "Stick to things."

## MATERIALS

## TEACHING STRATEGIES

Give students ample time to experiment with the magnets and try them with many objects in the room.

Then ask:

DO MAGNETS PICK UP OR STICK TO EVERYTHING?

CAN YOU FEEL MAGNETISM?

CAN YOU SEE MAGNETISM?

Now distribute a piece of string to each team of students and proceed outside.

Then say:

TIE ONE END OF YOUR STRING AROUND THE MIDDLE OF YOUR MAGNET AND HOLD THE OTHER END OF THE STRING.

Tell the students to hold the string as still as possible to see if the magnet will stop turning and move only slightly.

When the magnets are relatively still, have students observe the magnets and then ask:

WHAT HAPPENED?

WHAT DIRECTION ARE THEY POINTING?



DISTRIBUTE M

## TEACHING STRATEGIES

Give time to experiment with the magnets  
on many objects in the room.

DOCK UP OR STICK TO EVERYTHING?

MAGNETISM?

MAGNETISM?

Piece of string to each team of  
students outside.

WIND YOUR STRING AROUND THE MIDDLE  
OF IT AND HOLD THE OTHER END OF THE

Try to hold the string as still as  
possible so the magnet will stop turning and

When they are relatively still, have students  
observe and then ask:

Do?

WHEN ARE THEY POINTING?

## ANTICIPATED STUDENT BEHAVIORS

ACTIVITY 1-23

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Students:

--should have experimented enough to respond, "No."

--respond, "No," "I feel a pull."

--respond, "No."



DISTRIBUTE MATERIALS

--respond, "They all pointed in the same direction."

--examine the bar magnets, call upon their  
experience and respond, "North."

ACTIVITY 1-23

178

### MATERIALS

### TEACHING STRATEGIES

WHAT DIRECTION IS THE OTHER END POINTING TO?  
or WHAT DIRECTION IS OPPOSITE TO NORTH?



Now have all students face north and hold their arms out at their sides.

Ask:

WHAT DIRECTION ARE WE FACING?

WHAT DIRECTION IS TO YOUR LEFT?

If students do not give this response, indicate the right answer and point out that when a person is facing north, west is always to his left.

Then ask:

WHAT DIRECTION IS TO YOUR RIGHT?

Again repeat your strategy to establish that east is to their right. Also make sure students establish east and west as opposite directions.

Then ask:

IN WHAT DIRECTION DOES THE SUN SET EVERY DAY?

IN WHAT DIRECTION DOES THE SUN RISE EVERY DAY?

WHERE IS THE SUN IN THE MIDDLE OF THE DAY?

## TEACHING STRATEGIES

## ANTICIPATED STUDENT BEHAVIORS

Students:

--respond, "South."



THE OTHER END POINTING TO?  
IS OPPOSITE TO NORTH?

face north and hold their arms out

ARE WE FACING?

--respond, "North."

TO YOUR LEFT?

--respond, "West."

After this response, indicate the right  
that when a person is facing north,  
left.

TO YOUR RIGHT?

--respond, "East."

Strategy to establish that east is to  
be sure students establish east and  
directions.

DOES THE SUN SET EVERY DAY?

--respond, "West."

DOES THE SUN RISE EVERY DAY?

--respond, "The east."

IN THE MIDDLE OF THE DAY?

--respond, "Overhead," "Up."

## MATERIALS

## TEACHING STRATEGIES

COULD YOU EVER USE THE SUN TO HELP FIND DIRECTIONS?

Allow the student to take the magnet and string home to experiment further with it if he wishes to.

Now distribute a small compass to each student while you're still out of doors and say:

SINCE THE MAGNET IS SOMETIMES HARD TO USE, A COMPASS IS MOST OFTEN USED TO HELP YOU FIND NORTH.

Follow the steps below to show the students how to read their compasses.

Demonstrate by using a compass of your own.

DEMONSTRAT



This may be done outside or inside.

1. Hold the compass flat in your hand and wait until the needle is still.
2. Turn yourself or the compass until the needle marked N points to the N on the face of the compass.

Ask:

WHAT DIRECTION IS THE NEEDLE POINTING?

Have all the students change their positions and again find North using the compass.



## TEACHING STRATEGIES

USE THE SUN TO HELP FIND

take the magnet and string home to  
with it if he wishes to.

all compass to each student while  
doors and say:

IS SOMETIMES HARD TO USE, A  
OFTEN USED TO HELP YOU FIND

ow to show the students how to read

a compass of your own.

DEMONSTRATE



side or inside.

ss flat in your hand and wait until  
still.

or the compass until the needle  
s to the N on the face of the

AS THE NEEDLE POINTING?

s change their positions and again  
compass.

## ANTICIPATED STUDENT BEHAVIORS

ACTIVITY 1-23

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Students:

--infer, "Yes," "Early and late in the day."

--respond, "North," "The N."

ACTIVITY 1-23

180

**MATERIALS**

**TEACHING STRATEGIES**

Review with the students that if you are facing North, then behind you is South, on your right is East, and on your left is West.

Have students practice with directions by saying things such as:

TAKE THREE STEPS NORTH. TAKE TWO STEPS SOUTH.  
TAKE FIVE STEPS WEST. TAKE FOUR STEPS EAST.

Ask:

WHAT DOES THE WORD LANDMARK MEAN?

If the students do not know, tell them that a landmark is anything on the land that doesn't move, such as a tree, a mountain, or a building. It is something that will help them find their way around or identify a particular place.

Have the students locate environmental landmarks around your school within sight, i.e., mountains, buildings, rivers, lakes, streets, parks, etc. Continue to have the students look at their compasses for direction and give the direction that each landmark is from their location.

WHY IS IT IMPORTANT TO KNOW LANDMARKS?

When the students have returned to the room, distribute Worksheet 1-11 and a ruler to each student.

DISTRIBUTE

## TEACHING STRATEGIES

Students that if you are facing North,  
South, on your right is East, and on

Practice with directions by saying things

STEPS NORTH. TAKE TWO STEPS SOUTH.  
STEPS WEST. TAKE FOUR STEPS EAST.

WHAT DOES THE WORD LANDMARK MEAN?

If you do not know, tell them that a landmark is  
something that doesn't move, such as a tree. a  
building. It is something that will help  
you find your way around or identify a particular place.

Have students locate environmental landmarks around  
the school, i.e., mountains, buildings,  
streets, parks, etc. Continue to have the  
students use their compasses for direction and give the  
teacher the landmark is from their location.

WHAT IS IMPORTANT TO KNOW LANDMARKS?

After students have returned to the room, distribute  
a ruler to each student.

## ANTICIPATED STUDENT BEHAVIORS

Students:

--respond, "I don't know," "A mark on the land,"  
"Where something is."

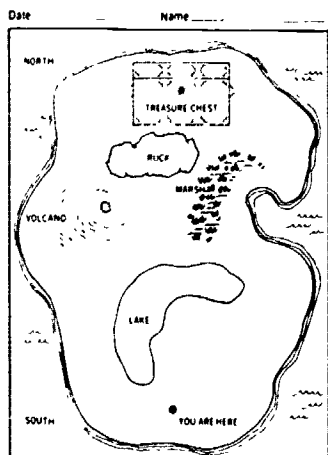
--respond, "So you know what direction things are  
when you don't have a compass."



## MATERIALS

Slide 1-41

Worksheet 1-11



## TEACHING STRATEGIES

Project Slide 1-41 to focus attention on the worksheet and say:

PRETEND THAT YOU ARE ON AN ISLAND AND ARE STANDING HERE (point to black dot on screen). WITH A RULER AND YOUR PENCIL SEE IF YOU CAN FOLLOW MY DIRECTIONS TO GET TO THE OTHER SIDE OF THE ISLAND WHERE THE TREASURE IS (point to the treasure).

STARTING FROM THE DOT DRAW A TWO-INCH LINE TO THE WEST.

Repeat this direction as you circulate around the room and assist students.



Ask:

SHOULD YOU DRAW THE LINE TO YOUR LEFT OR YOUR RIGHT?

Have students write in west along the margin at the left and east along the margin at the right of their worksheets.

When all students have drawn their first lines correctly, continue with the next direction:

NOW TURN RIGHT AND GO THREE AND ONE-HALF INCHES NORTH.



## TEACHING STRATEGIES

to focus attention on the worksheet and

YOU ARE ON AN ISLAND AND ARE  
(point to black dot on screen).  
D YOUR PENCIL SEE IF YOU CAN  
CTIONS TO GET TO THE OTHER SIDE  
HERE THE TREASURE IS (point to

THE DOT DRAW A TWO-INCH LINE

as you circulate around the room



THE LINE TO YOUR LEFT OR

in west along the margin at the left  
margin at the right of their worksheets.

ve drawn their first lines correctly,  
xt direction:

AND GO THREE AND ONE-HALF

## ANTICIPATED STUDENT BEHAVIORS

ACTIVITY 1-23

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Students:

--respond, "To the left."



ACTIVITY 1-23

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MATERIALS

TEACHING STRATEGIES



After each direction give students plenty of working and thinking time. Assist where needed. It is important for students to be successful at this!

GIVE  
TIME  
TO  
THINK

Continue now with the following directions in the order listed. They should put students in the treasure area:

NOW TURN RIGHT AND GO ONE AND ONE-HALF INCHES EAST. NOW TURN LEFT AND GO ONE AND ONE-HALF INCHES NORTH. NOW TURN LEFT AND GO TWO INCHES WEST. NOW TURN RIGHT AND GO TWO INCHES NORTH. NOW MAKE A RIGHT TURN AND GO INTO THE TREASURE CHEST.

Praise students for their ability to follow the directions. Have students who are successful help those that were not.

When students have identified their errors and are ready to tackle another set, have students repeat the procedure above with the directions given below:

1. Two inches north.
2. Turn right go two inches east.
3. Turn left go one and one-half inches north.
4. Turn left go one-half inch west.
5. Turn right go one and one-half inches north.
6. Turn right go one inch east.
7. Turn left go one and one-half inches north.
8. Turn left into the treasure chest.

## TEACHING STRATEGIES

## ANTICIPATED STUDENT BEHAVIORS



tion give students plenty of working and  
assist where needed. It is important for  
successful at this!



n the following directions in the order  
ould put students in the treasure area:

IGHT AND GO ONE AND ONE-HALF INCHES  
TURN LEFT AND GO ONE AND ONE-HALF  
H. NOW TURN LEFT AND GO TWO INCHES  
TURN RIGHT AND GO TWO INCHES NORTH.  
RIGHT TURN AND GO INTO THE TREASURE

for their ability to follow the directions.  
o are successful help those that were not.

ve identified their errors and are ready  
r set, have students repeat the procedure  
irections given below:

north.  
go two inches east.  
go one and one-half inches north.  
go one-half inch west.  
go one and one-half inches north.  
go one inch east.  
go one and one-half inches north.  
into the treasure chest.

### MATERIALS

### TEACHING STRATEGIES

Again praise students for their work. Those who have been successful on the second try should now design a new set of directions to get from the starting point to the treasure. When they have created one, have students work in pairs and see if they can follow the other student's directions to the treasure chest. Those students who have not been successful should work with you in correcting their errors and getting assistance before they attempt to design their own directions.

Allow students to work on this task as long as interest remains high. You can challenge students who are very good at this task to design as many different paths as they can while other students develop the basic skill.



## STRATEGIES

their work. Those who have  
and try should now design a  
et from the starting point to  
ave created one, have students  
they can follow the other  
a treasure chest. Those  
successful should work with  
rors and getting assistance  
ign their own directions.

this task as long as interest  
allenge students who are very  
n as many different paths as  
nts develop the basic skill.

## ANTICIPATED STUDENT BEHAVIORS

ACTIVITY 1-23

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ACTIVITY 1-23: "Establishing Environmental Landmarks"

Activity name suggested by class: \_\_\_\_\_

Teacher

BSCS USE:	Post	Tally	Rev
Day 1	Day 2	Day 3	Day 4
Day 5	Day 6		

1.	Date taught (month and date, e.g. 11/2)								
2.	Minutes of class time on science each day								
3.	Minutes of preparation each day								
4.	Students absent on each date (Use ID Number)								

5. Interest of class as expressed by apparent attention to what is happening.

Number of students responding with: \_\_\_\_\_ Name students you noted especially: \_\_\_\_\_

HIGH INTEREST	_____
MODERATE INTEREST	_____
INDIFFERENCE	_____
MODERATE RESISTANCE	_____
STRONG DISLIKE	_____
HARD TO RATE	_____

6. Equipment in kit: ☐ None needed ☐ Satisfactory ☐ Too fragile ☐ Too complicated ☐ Difficult to use
7. Equipment I got: ☐ None needed ☐ Easy to get but okay ☐ Hard to get, add to kit ☐ Unobtainable, add to kit

Materials used:	Worksheet #	Game #	Slides (show slide nos.)	Transparency #	Card(s) #	Tape(s) #	Other #
Worthwhile as is							
Revise slightly							
Revise much							
Worthless: omit							

9. Maturity level is ☐ just right ☐ too childish ☐ too mature Explain:
10. Vocabulary level is ☐ just right ☐ too easy ☐ too difficult Explain:
11. Were teacher instructions clear enough to follow? ☐ Yes ☐ No - Pages and Problem:
12. Were clues to success and reviews of success helpful? ☐ Yes ☐ No - Why not?
13. Did the activity fulfill the purpose stated by the Guide? ☐ Yes ☐ No - Comment:
14. Were any parts of this activity omitted? ☐ No ☐ Yes - Explain:
15. Your rating of this activity: ☐ Worthwhile ☐ Of value--needs the ☐ Worth salvaging--make ☐ Worthless

Materials used:	Worksheet #	Game #	Slides (show slide nos.)	Transparency #	Card(s) #	Tape(s) #	Other #
Worthwhile as is							
Revise Slightly							
Revise much							
Worthless: omit							

9. Maturity level is ☐ just right ☐ too childish ☐ too mature Explain:
10. Vocabulary level is ☐ just right ☐ too easy ☐ too difficult Explain:
11. Were teacher instructions clear enough to follow? ☐ Yes ☐ No - Pages and Problem:
12. Were clues to success and reviews of success helpful? ☐ Yes ☐ No - Why not?
13. Did the activity fulfill the purpose stated by the Guide? ☐ Yes ☐ No - Comment:
14. Were any parts of this activity omitted? ☐ No ☐ Yes - Explain:
15. Your rating of this activity:  
☐ Worthwhile ☐ Of value--needs the ☐ Worth salvaging--make ☐ Worthless  
--keep as is revision suggested major changes described --drop it  
-----

## SPECIFIC CONCERNS ABOUT THIS ACTIVITY:

16. There are always parts of activities that are good and need not be changed.  
What parts of this activity should be retained when the curriculum is revised?  
Page(s) \_\_\_\_\_:

17. Did taking magnets and compasses home create any problems?  
☐ No ☐ Yes: Comment.

18. Did any students have difficulty completing Worksheet 1-11?  
☐ No ☐ Yes  
If students encountered problems with Worksheet 1-11, enclose a copy of the worksheet and explain the problem.

19. Concern (or questions) about content:

20. Messages for staff (read immediately):

BSCS Evaluation: EMH Feedback Form 1c

Have you answered each question, attached annotated Guide, your revisions, student work, etc.?

SIDE A

UNIT I, CORE C  
ACTIVITY 1-23: "Establishing Environmental Landmarks"

Teacher \_\_\_\_\_

## REPORT OF WHAT HAPPENED AND SUGGESTIONS FOR REVISION

1. Whenever practical write all over your second copy of the Guide. Tear out the activity and send the annotated Guide in with this form.
2. Make specific suggestions - exactly what you think should appear in the Guide.
3. Tell us what you did. Think of what you needed, what you had to work out for yourself, how you presented something to make it go over.
4. Describe the revisions you said were needed in answering the questions on the other side of this form.
5. As a reminder of things that help in revision, read through the following list and check off things you want to be sure to note this time. (We know you can't tell about everything every time!)

## THE LESSON

- ☐ how you organized materials or class.
- ☐ things added (a question, a picture, etc.).
- ☐ equipment, supplies, visual aids.
- ☐ things that went wrong, misunderstandings.
- ☐ what you would do differently or avoid next time.
- ☐ turmoil in the class caused by the activity, or disruptive students, or interruptions, and how you dealt with them.

## THE STUDENTS

- ☐ who had problems and what they were.
- ☐ how someone "caught on" (or who never did).
- ☐ who was really "turned off" (or on).
- ☐ reactions of parents, teachers, students.
- ☐ special evidence of learning or applying ideas.



## Me and my Environment

### OBJECTIVE FOCUS FOR THIS ACTIVITY

#### UNIT GOALS:

1. Explore his immediate environment through a variety of sensory experiences and physical contacts.
3. Create a greater interest in, and a more sensitive attitude toward, his environment.
4. Understand that his environment includes the whole Earth.

#### CORE C OBJECTIVES:

1. Become aware that there are certain environmental landmarks and that these may serve to orient him to his environment.
3. Appreciate the aesthetic and functional qualities of various habitats.

### MATERIALS

### TEACHING STRATEGIES

#### Activity 1-24. Landmarks And Habitats In My Environment

*In this activity, the student will orient himself according to various landmarks in the community. He will locate his home on a map and recognize that this is also an environmental landmark as well as a part of his habitat. With the ability to identify and use landmarks, the student will develop more self-assurance in traveling around the community.*

ACTIVITY

is immediate environment through of sensory experiences and contacts.

greater interest in, and a more attitude toward, his environment.

that his environment includes Earth.

are that there are certain tal landmarks and that these to orient him to his environment.

the aesthetic and functional of various habitats.

ING STRATEGIES

Landmarks And Habitats In My Environment

student will orient himself landmarks in the community. He will and recognize that this is also as well as a part of his ty to identify and use landmarks, more self-assurance in traveling

UNIT I. EXPLORING MY ENVIRONMENT

CORE C. LANDMARKS IN MY ENVIRONMENT

ACTIVITY 1-24. LANDMARKS AND HABITATS IN MY ENVIRONMENT



BSCS

ANTICIPATED STUDENT BEHAVIORS

At the end of this activity, each student should:

- have written his name and address on the chalkboard.
- have marked N, S, E, and W on his map.
- have located true north and oriented his map with actual directions.
- have located his home on his map.
- have practiced using a map to find places in his environment.
- have practiced giving directions to get to certain places in his environment.

ACTIVITY 1-24

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MATERIALS

- \*Map of the school and the surrounding area (1 per student)
- \*One map of the school area mounted on cardboard for a master copy
- \*Pins with small paper flags for identification of school and student homes on master map
- \*Felt pen
- Compass (1 per student)

\*Not furnished in materials kit

TEACHING STRATEGIES

Teacher Preparation:

1. Mount one copy of the map on a piece of cardboard to serve as a master map.
2. Prepare the pins and flags by cutting out a narrow strip of paper, folding it over the pin and stapling it in place. Prepare enough of these so there is one for each student.

Begin by asking:

WHAT DOES ENVIRONMENT MEAN?

WHO REMEMBERS WHAT A LANDMARK IS?

WHO REMEMBERS WHAT A HABITAT IS?

Remind students of the meaning of habitat:

HABITAT IS THE PLACE WHERE A LIVING THING LIVES OR IS USUALLY FOUND.

Then say:

TODAY WE'RE GOING TO BE LOOKING AT SOME LANDMARKS AND HABITATS IN OUR ENVIRONMENT.

HOW MANY KINDS OF LIVING THINGS DO WE HAVE IN OUR CLASSROOM ENVIRONMENT?

## TEACHING STRATEGIES

n:

py of the map on a piece of cardboard  
a master map.

pins and flags by cutting out a narrow  
er, folding it over the pin and stapling  
Prepare enough of these so there is  
student.

IRONMENT MEAN?

WHAT A LANDMARK IS?

WHAT A HABITAT IS?

the meaning of habitat:

THE PLACE WHERE A LIVING THING  
USUALLY FOUND.

GOING TO BE LOOKING AT SOME  
HABITATS IN OUR ENVIRONMENT.

OF LIVING THINGS DO WE HAVE  
ROOM ENVIRONMENT?

## ANTICIPATED STUDENT BEHAVIORS

Students:

--recall definition learned earlier and respond,  
"Everything around us."

--respond, "A building, mountain, or tree, or  
something else that will help us find places  
or directions."

--probably will have forgotten the meaning of  
this word.

--respond, "People, plants, pond and land animals."



## MATERIALS

## TEACHING STRATEGIES

WHAT IS THE (snail, fish, pet, etc.) HABITAT?

Then ask:

WHAT IS YOUR HABITAT, (student's name)?

IS YOUR HOME A PART OF YOUR HABITAT?

WRITE YOUR NAME AND THE ADDRESS OF YOUR HOME  
ON THE CHALKBOARD.

Leave the names and addresses on the chalkboard and refer to them as necessary during the remainder of the activity. Put the address of the school on the chalkboard also.

Distribute a map of the school area to each student. Area maps may be obtained from one of the following sources:

Superintendent's or principal's office  
School bus map  
Local education association office  
City planner's office  
Fire department  
Police department  
Service stations  
Chamber of Commerce  
AAA

Say:

FIND THE PLACE ON YOUR MAP WHERE YOU ARE  
RIGHT NOW.

## TEACHING STRATEGIES

(snail, fish, pet, etc.) HABITAT?

HABITAT, (student's name)?

PART OF YOUR HABITAT?

AND THE ADDRESS OF YOUR HOME  
CARD.

addresses on the chalkboard and  
necessary during the remainder of the  
address of the school on the chalkboard

the school area to each student.  
obtained from one of the following

's or principal's office

association office  
office

ent  
ns  
merce

ON YOUR MAP WHERE YOU ARE

## ANTICIPATED STUDENT BEHAVIORS

ACTIVITY 1-24

187

Students:

--state the location or go to the appropriate  
place and identify the (snail, fish, pet)  
habitat.

--respond, "My home, my school, stores, etc.,"  
"The places where I can be found."

--respond, "Yes."

--write their names and addresses on the  
chalkboard.

--point out the location of the school on their  
maps.

ACTIVITY 1-24

188

**MATERIALS**

**TEACHING STRATEGIES**

Assist the students if they have difficulty. Have students mark the school's location on their maps with a felt pen and place a pin in the master map with a flag labeled SCHOOL.

Now ask:

WHO KNOWS WHICH WAY IS NORTH ON THE MAP?

Instruct the students to mark north on their maps with the magic marker by placing an N on the top of the map. Insure that each map is marked correctly. Mark N on the master map also.

Point out that all properly constructed maps are made with north at the top of the map. Then ask:

IF NORTH IS AT THE TOP, WHERE WOULD YOU FIND SOUTH?

NOW MARK SOUTH ON YOUR MAP.

Mark an S on the master map also. Then ask:

WHICH SIDE OF YOUR MAP IS EAST?

Have students mark E on their maps. Mark an E on the master map also.

WHICH SIDE IS WEST?

Have students mark W on their maps. Mark W on the master map also.

(Weather permitting) Take the students outside with their maps. Instruct the students to use their compasses to determine which way is north. Then have them orient their maps so that north on their maps is actually pointing north.

## TEACHING STRATEGIES

They have difficulty. Have  
's location on their maps with a  
in the master map with a flag

IS NORTH ON THE MAP?

mark north on their maps with  
ing an N on the top of the map.  
marked correctly. Mark N on the

erly constructed maps are made with  
map. Then ask:

TOP, WHERE WOULD YOU

OUR MAP.

map also. Then ask:

MAP IS EAST?

their maps. Mark an E on the

their maps. Mark W on the master

Take the students outside with their  
ents to use their compasses to  
orth. Then have them orient their  
their maps is actually pointing

## ANTICIPATED STUDENT BEHAVIORS

Students:

--respond, "On the top," "This way."

--indicate that south is at the bottom of the map.

--mark S on their maps.

--respond that the right side of the map is east.

--indicate that the left-hand side of the map is  
west.

## MATERIALS

## TEACHING STRATEGIES

(Student's name), WHAT DIRECTION DO YOU GO FROM THE SCHOOL TO GET HOME?

If the student has difficulty, point to the directions marked on his or the master map and ask him what direction he would have to walk to get home.



Now ask each student to find the location of his home on the map. Assist students as necessary. When a student has properly identified the location of his home on the map, instruct him to place a pin (flag with his name) on the master map. Continue until there is a pin on the master map at the location of each student's home.

Then say:

WHAT DO THESE PINS ON THE MAP SHOW US?

When students have completed finding the places, continue by saying:

SEE IF YOU CAN FOLLOW MY DIRECTIONS. START AT SCHOOL, FOLLOW MY DIRECTIONS, AND SEE IF YOU END UP AT THE PLACE I HAVE IN MIND.

Pick a place known to students and give them very simple directions (use blocks as units) to get to some place. Use N, S, E, W, and left-right in your directions. Directions might be as follows:

GO NORTH 5 BLOCKS ON FIFTH AND TURN LEFT ONTO FOX ROAD. TRAVEL ON FOX ROAD FOR

## TEACHING STRATEGIES

...WHAT DIRECTION DO YOU GO FROM  
...HOME?

...difficulty, point to the directions  
...master map and ask him what direction  
...to get home.



**HAVE YOU  
INVOLVED  
ALL  
STUDENTS?**

...to find the location of his home on  
...ents as necessary. When a student  
...ed the location of his home on the  
...place a pin (flag with his name) on  
...inue until there is a pin on the  
...ation of each student's home.

...S ON THE MAP SHOW US?

...mpleted finding the places,

...OLLOW MY DIRECTIONS. START  
...W MY DIRECTIONS, AND SEE IF  
...E PLACE I HAVE IN MIND.

...students and give them very simple  
...s as units) to get to some place.  
...eft-right in your directions.  
...s follows:

...S ON FIFTH AND TURN LEFT  
...N FOX ROAD FOR

## ANTICIPATED STUDENT BEHAVIORS

ACTIVITY 1-24

189

Students:

--using his compass, point to the direction in  
which his home is located.

--respond, "Home," "Where I live," "My habitat,"  
"Where we all live."

ACTIVITY 1-24

(190)

MATERIALS

TEACHING STRATEGIES

7 BLOCKS AND THEN TURN RIGHT AND TRAVEL  
NORTH ON EIGHTH STREET FOR 10 BLOCKS.  
WHAT PLACE HAVE I TAKEN YOU TO?

IS ALL OF THIS AREA (point to master map)  
A PART OF YOUR HABITAT?

ARE OUR HOUSES LANDMARKS?

Now give students a list of places that are well known in your community. Write them on the chalkboard and allow students time to examine their maps carefully and find the location of each place on their map. Give them a large list as they will enjoy finding the places. Give them places such as: the arena, the city hall, museum, zoo, etc. as well as places such as 5th and Sherman Boulevard.

After completing this task students might take turns directing the class to places of unknown destiny. Give students time to formulate their directions and kindly offer suggestions if their directions are not clear. Continue this kind of travel game as long as interest warrants.



INVOLV  
SLOW  
& STUD

## TEACHING STRATEGIES

WHEN TURN RIGHT AND TRAVEL  
H STREET FOR 10 BLOCKS.  
E I TAKEN YOU TO?

AREA (point to master map)  
HABITAT?

LANDMARKS?

list of places that are well known  
Write them on the chalkboard and  
to examine their maps carefully and  
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s task students might take turns  
to places of unknown destiny. Give  
mulate their directions and kindly  
their directions are not clear.  
f travel game as long as interest



## ANTICIPATED STUDENT BEHAVIORS

Students:

--respond, "Yes."

--respond, "Yes."

INVOLVE YOUR  
SLOWEST  
STUDENTS



# ACTIVITY 1-24: "Landmarks And Habitats In My Environment"

Teacher

Activity name suggested by class:

BSCS USE:	Post	Tally	Rev
Day 1	Day 2	Day 3	Day 4
Day 5	Day 6		

1.	Date taught (month and date, e.g. 11/2)								
2.	Minutes of class time on science each day								
3.	Minutes of preparation each day								
4.	Students absent on each date (Use ID Number)								

5. Interest of class as expressed by apparent attention to what is happening.

Number of students responding with: Name students you noted especially:

	Number
HIGH INTEREST	_____
MODERATE INTEREST	_____
INDIFFERENCE	_____
MODERATE RESISTANCE	_____
STRONG DISLIKE	_____
HARD TO RATE	_____

6. Equipment in kit: ☐ None needed ☐ Satisfactory ☐ Too fragile ☐ Too complicated ☐ Difficult to use
7. Equipment I got: ☐ None needed to get ☐ Easy to get but okay ☐ Hard to get, add to kit ☐ Unobtainable, add to kit

Materials used:	Worksheet #	Game #	Slides (show slide nos.)	Transparency #	Card(s) #	Tape(s) #	Other #
Worthwhile as is							
Revise slightly							
Revise much							
Worthless: omit							

9. Maturity level is ☐ just right ☐ too childish ☐ too mature Explain:
10. Vocabulary level is ☐ just right ☐ too easy ☐ too difficult Explain:
11. Were teacher instructions clear enough to follow? ☐ Yes ☐ No - Pages and Problem:
12. Were clues to success and reviews of success helpful? ☐ Yes ☐ No - Why not?
13. Did the activity fulfill the purpose stated by the Guide? ☐ Yes ☐ No - Comment:
14. Were any parts of this activity omitted? ☐ No ☐ Yes - Explain:
15. Your rating of this activity:

	#	#	#	#	#	#	#	#	#	#	#	#	#	#
Worthwhile as is														
Revise slightly														
Revise much														
Worthless: omit														

9. Maturity level is ☐ just right ☐ too childish ☐ too mature Explain:
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11. Were teacher instructions clear enough to follow? ☐ Yes ☐ No - Pages and Problem:
12. Were clues to success and reviews of success helpful? ☐ Yes ☐ No - Why not?
13. Did the activity fulfill the purpose stated by the Guide? ☐ Yes ☐ No - Comment:
14. Were any parts of this activity omitted? ☐ No ☐ Yes - Explain:
15. Your rating of this activity:  
☐ Worthwhile ☐ Of value--needs the ☐ Worth salvaging--make ☐ Worthless  
--keep as is revision suggested major changes described --drop it
- SPECIFIC CONCERNS ABOUT THIS ACTIVITY:
16. There are always parts of activities that are good and need not be changed.  
What parts of this activity should be retained when the curriculum is revised?  
Page(s) \_\_\_\_\_:

17. Did students have difficulty locating their home on the map?  
☐ None ☐ 1/4 ☐ 1/2 ☐ 3/4 ☐ All: Comment.
18. Please send a copy of the map you used in this activity to BSCS with this form.
19. Concern (or questions) about content:
20. Messages for staff (read immediately):

BSCS Evaluation: EMH Feedback Form 1c

Have you answered each question, attached annotated Guide, your revisions, student work, etc.?

SIDE A

UNIT 1, LESSON 1  
ACTIVITY 1-24: "Landmarks And Habitats In My Environment"

Teacher \_\_\_\_\_

## REPORT OF WHAT HAPPENED AND SUGGESTIONS FOR REVISION

1. Whenever practical write all over your second copy of the Guide. Tear out the activity and send the annotated Guide in with this form.
2. Make specific suggestions - exactly what you think should appear in the Guide.
3. Tell us what you did. Think of what you needed, what you had to work out for yourself, how you presented something to make it go over.
4. Describe the revisions you said were needed in answering the questions on the other side of this form.
5. As a reminder of things that help in revision, read through the following list and check off things you want to be sure to note this time. (We know you can't tell about everything every time!)

## THE LESSON

- ☐ how you organized materials or class.
- ☐ things added (a question, a picture, etc.).
- ☐ equipment, supplies, visual aids.
- ☐ things that went wrong, misunderstandings.
- ☐ what you would do differently or avoid next time.
- ☐ turmoil in the class caused by the activity, or disruptive students, or interruptions, and how you dealt with them.

## THE STUDENTS

- ☐ who had problems and what they were.
- ☐ how someone "caught on" (or who never did).
- ☐ who was really "turned off" (or on).
- ☐ reactions of parents, teachers, students.
- ☐ special evidence of learning or applying ideas.



## Me and my Environment

### OBJECTIVE FOCUS FOR THIS ACTIVITY

#### UNIT GOALS:

2. Recognize the environmental components essential for all living things.
3. Create a greater interest in, and a more sensitive attitude toward, his environment.
4. Understand that his environment includes the whole Earth.

#### CORE C OBJECTIVES:

1. Become aware that there are certain environmental landmarks and that these may serve to orient him to his environment.
2. Examine a variety of habitats.
3. Appreciate the aesthetic and functional qualities of various habitats.
4. Associate the Earth with a finite spaceship.

### MATERIALS

### TEACHING STRATEGIES

#### Activity 1-25. Homes And Habitats In My World

*In the previous activity students identified their homes as a part of their habitat. Now they will compare their homes and surroundings with other home habitats around the world.*

THIS ACTIVITY

ze the environmental components  
al for all living things.

a greater interest in, and a more  
ve attitude toward, his environment.

and that his environment includes  
le Earth.

S:

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es of various habitats.

te the Earth with a finite  
ip.

## UNIT I.

## EXPLORING MY ENVIRONMENT



## CORE C.

LANDMARKS IN MY  
ENVIRONMENT

BSCS

ACTIVITY 1-25. HOMES AND HABITATS  
IN MY WORLDTEACHING STRATEGIESHomes and Habitats In My World

ity students identified their homes  
bitat. Now they will compare their  
s with other home habitats around

ANTICIPATED STUDENT BEHAVIORS

At the end of this activity, each student should:

- have viewed the sequence of slides showing a variety of homes and habitats in different parts of the world.
- have identified some likenesses and differences in various habitats and compared them with his own.
- have made speculations about how the environment affects people's choices of structure and design in their homes.
- have concluded that certain environmental components are common to all habitats of people.

# ACTIVITY 1-25

192

## MATERIALS

Slides 1-42 through 1-56

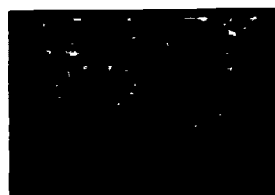
\*World map

\*35mm Slide projector

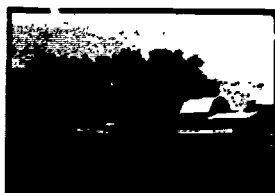
Slide 1-42



Slide 1-43



Slide 1-44



\*Not furnished in materials kit

## TEACHING STRATEGIES

### Teacher Preparation:

Set up the slide projector and screen before class begins. Have the sequence of slides and the world map ready for use.

Begin by saying:

HOW MANY OF YOU HAVE EVER TAKEN A TRIP IN A JET AIRPLANE?

WHERE DID YOU GO?

TODAY WE ARE GOING TO TAKE A TRIP ON A JET TO SEE WHAT DIFFERENT PLACES ARE LIKE. BEFORE WE GO ON THE TRIP, LET'S LOOK AT A MAP OF THE WORLD TO FIND THE PLACES WE ARE GOING TO VISIT.

The slide locations are outlined below:

- 1-42. Alaskan coastal village.
- 1-43. Japanese home.
- 1-44. Farm -- many possible locations.
- 1-45. Pueblo -- New Mexico
- 1-46. Small house -- many possible locations.
- 1-47. Modern apartments -- many possible locations.
- 1-48. Trailer court -- many possible locations.
- 1-49. Rural home -- many possible locations.
- 1-50. Rural Chinese farm.
- 1-51. New York skyline.
- 1-52. Thailand canal house.
- 1-53. Suburban -- many possible locations.
- 1-54. Chalet in Swiss Alps.
- 1-55. Navajo hogan -- Arizona.
- 1-56. Plantation -- Eastern Asia.

## TEACHING STRATEGIES

tion:

projector and screen before class begins.  
of slides and the world map ready for

YOU HAVE EVER TAKEN A TRIP IN A JET

YOU GO?

WE GOING TO TAKE A TRIP ON A JET TO  
DIFFERENT PLACES ARE LIKE. BEFORE WE  
TRIP, LET'S LOOK AT A MAP OF THE  
AND THE PLACES WE ARE GOING TO VISIT.

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nese home.

-- many possible locations.

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ler court -- many possible locations.

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l Chinese farm.

York skyline.

land canal house.

urban -- many possible locations.

et in Swiss Alps.

jo hogan -- Arizona.

station -- Eastern Asia.

## ANTICIPATED STUDENT BEHAVIORS

Students:

--respond by raising hands.

--indicate various places.

## MATERIALS

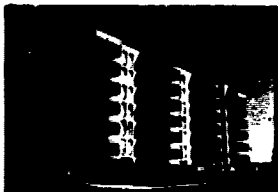
Slide 1-45



Slide 1-46



Slide 1-47



Slide 1-48



## TEACHING STRATEGIES

Now focus the students' attention on the world map and point to the locations they will visit on their "slide trip" to various parts of the world.

Project the sequence of slides. After each slide ask:

WHAT IS THIS A PICTURE OF?

DOES SOMEONE LIVE HERE?

HOW IS THIS HABITAT LIKE YOUR OWN? HOW IS IT DIFFERENT?

After Slide 1-43 has been shown, ask also:

HOW DOES THIS PICTURE DIFFER FROM THE FIRST ONE?

Ask other questions when appropriate such as:

WHY DO YOU SUPPOSE THIS ROOF IS VERY STEEP?  
WHY DO YOU SUPPOSE THIS ROOF IS VERY FLAT?

WHY DO YOU SUPPOSE THIS HOUSE HAS VERY FEW WINDOWS?

WHY DO YOU SUPPOSE THIS HOUSE IS SO OPEN?

WHAT MATERIALS WERE USED TO BUILD THIS HOUSE?

## AN

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## TEACHING STRATEGIES

nts' attention on the world map and  
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when appropriate such as:

POSE THIS ROOF IS VERY STEEP?

POSE THIS ROOF IS VERY FLAT?

POSE THIS HOUSE HAS VERY FEW

POSE THIS HOUSE IS SO OPEN?

WERE USED TO BUILD THIS HOUSE?

## ANTICIPATED STUDENT BEHAVIORS

ACTIVITY 1-25

193

Students:

--identify the projected picture as the home  
habitat of someone.

--respond, "Yes."

--compare the projected habitat with their own  
and state similarities and differences.

--compare environments and habitats within the  
slide sequence.

--identify environmental components that might  
explain a flat or steep roof, such as snow or  
wind.

--identify environmental components that might  
explain a home with a few windows, such as wind.

--identify environmental components that might  
explain an open house, such as temperature.

--identify building materials.

ACTIVITY 1-25

194

**MATERIALS**

Slide 1-49



Slide 1-50



Slide 1-51



Slide 1-52



**TEACHING STRATEGIES**

WHY DO YOU SUPPOSE THAT KIND WAS USED?

After the last slide ask also:

WHICH OF THESE HABITATS AND ENVIRONMENTS  
WOULD YOU PREFER TO LIVE IN? WHY?

IN WHAT WAY ARE ALL THESE HABITATS ALIKE?

Bulletin board suggestions:

Bring in pictures of habitats cut from magazines or taken  
in your own travels. Entitle it "Habitats" and encourage  
students to determine and discuss environmental components  
in each picture.

Slide 1-53



Slide 1-54



## TEACHING STRATEGIES

DO YOU SUPPOSE THAT KIND WAS USED?

At slide ask also:

THESE HABITATS AND ENVIRONMENTS  
DO YOU PREFER TO LIVE IN? WHY?

HOW ARE ALL THESE HABITATS ALIKE?

Additional suggestions:

Use pictures of habitats cut from magazines or taken from travels. Entitle it "Habitats" and encourage students to determine and discuss environmental components present in each.

Slide 1-53



Slide 1-54



## ANTICIPATED STUDENT BEHAVIORS

Students:

--make varied speculations according to the question asked, such as, "Steep roofs shed heavy snow and rain," "Flat roofs are for warmer weather, drier climate," "Choice of material is due to availability and climate conditions," "Many or few windows are due to weather, location, crowded conditions, and availability of space."

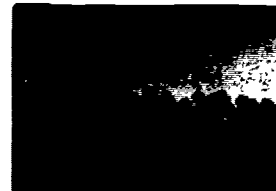
--recall the slide scenes and discuss which habitats and environments they would prefer to live in and state their reasons why.

--conclude that there are environmental components common to all habitats, such as land, air, sun, water, shelter, and food.

Slide 1-55



Slide 1-56



## ACTIVITY 1-25: "Landmarks And Habitats In My World"

Activity name suggested by class:

Teacher

BSCS USE: Post \_\_\_\_ Tally \_\_\_\_ Rev \_\_\_\_  
Day 1 Day 2 Day 3 Day 4 Day 5 Day 6

1.	Date taught (month and date, e.g. 11/2)						
2.	Minutes of class time on science each day						
3.	Minutes of preparation each day						
4.	Students absent on each date (Use ID Number)						

5. Interest of class as expressed by apparent attention to what is happening.Number of students responding with: Name students you noted especially:  
(Number)

HIGH INTEREST	_____
MODERATE INTEREST	_____
INDIFFERENCE	_____
MODERATE RESISTANCE	_____
STRONG DISLIKE	_____
HARD TO RATE	_____

6. Equipment in kit: ☐ None ☐ Satisfactory ☐ Too fragile ☐ Too complicated ☐ Difficult to use7. Equipment I got: ☐ None ☐ Easy to get ☐ Hard to get, but okay ☐ Hard to get, add to kit ☐ Unobtainable, add to kit

8. Materials used:	Worksheet #	Game #	Slides (show slide nos.)	Transparency #	Card(s) #	Tape(s) #	Other #
Worthwhile as is							
Revise slightly							
Revise much							
Worthless: omit							

9. Maturity level is ☐ just right ☐ too childish ☐ too mature Explain:10. Vocabulary level is ☐ just right ☐ too easy ☐ too difficult Explain:11. Were teacher instructions clear enough to follow? ☐ Yes ☐ No - Pages and Problem:12. Were clues to success and reviews of success helpful? ☐ Yes ☐ No - Why not?13. Did the activity fulfill the purpose stated by the Guide? ☐ Yes ☐ No - Comment:14. Were any parts of this activity omitted? ☐ No ☐ Yes - Explain:

15. Your rating of this activity:

☐ Worthwhile ☐ Of value--needs the revision suggested ☐ Worth salvaging--make major changes described ☐ Worthless --drop it

8. Materials used:	Worksheet		Game	Slides (show slide nos.)		Transparency		Card(s)	Tape(s)	Other
	#	#		#	#	#	#			
Worthwhile as is										
Revise slightly										
Revise much										
Worthless: omit										

9. Maturity level is ☐ just right ☐ too childish ☐ too mature Explain:
10. Vocabulary level is ☐ just right ☐ too easy ☐ too difficult Explain:
11. Were teacher instructions clear enough to follow? ☐ Yes ☐ No - Pages and Problem:
12. Were clues to success and reviews of success helpful? ☐ Yes ☐ No - Why not?
13. Did the activity fulfill the purpose stated by the Guide? ☐ Yes ☐ No - Comment:
14. Were any parts of this activity omitted? ☐ No ☐ Yes - Explain:
15. Your rating of this activity:  
☐ worthwhile ☐ Of value--needs the ☐ Worth salvaging--make ☐ Worthless  
--keep as is revision suggested major changes described --drop it

## SPECIFIC CONCERNS ABOUT THIS ACTIVITY:

16. There are always parts of activities that are good and need not be changed.  
What parts of this activity should be retained when the curriculum is revised?  
Page(s) \_\_\_\_\_:

17. Did pupils ask questions about any scenes in the slides?

Yes

If yes, identify the scene and tell what kind of questions were asked.

18. What was the interest level of most pupils while taking the "slide trip"?  
Low Medium High (Circle one.)

19. How many pupils concluded that land, air, water, shelter, and food are common to all habitats?

☐ None ☐ Some ☐ Most: Comment.

20. Concern (or questions) about content:

21. Messages for staff (read immediately):

BSCS Evaluation: EMH Feedback Form 1c

Have you answered each question, attached annotated Guide, your revisions, student work, etc.?

Activity name suggested by class: \_\_\_\_\_

Teacher

BSCS USE:	Post	Tally	Rev
Day 1	Day 2	Day 3	Day 4
Day 5	Day 6		

1.	Date taught (month and date, e.g. 11/2)								
2.	Minutes of class time on science each day								
3.	Minutes of preparation each day								
4.	Students absent on each date (Use ID Number)								

5. Interest of class as expressed by apparent attention to what is happening.

Number of students responding with: Name students you noted especially: \_\_\_\_\_

HIGH INTEREST	_____
MODERATE INTEREST	_____
INDIFFERENCE	_____
MODERATE RESISTANCE	_____
STRONG DISLIKE	_____
HARD TO RATE	_____

6. Equipment in kit: ☐ None ☐ Satisfactory ☐ Too fragile ☐ Too complicated ☐ Difficult to use

7. Equipment I got: ☐ None ☐ Easy to get ☐ Hard to get, but okay ☐ Hard to get, add to kit ☐ Unobtainable, add to kit

8. Materials used:	Worksheet #	Game #	Slides (show slide nos.)	Transparency #	Card(s) #	Tape(s) #	Other #
Worthwhile as is							
Revise slightly							
Revise much							
Worthless: omit							

9. Maturity level is ☐ just right ☐ too childish ☐ too mature Explain:

10. Vocabulary level is ☐ just right ☐ too easy ☐ too difficult Explain:

11. Were teacher instructions clear enough to follow? ☐ Yes ☐ No - Pages and Problem:

12. Were clues to success and reviews of success helpful? ☐ Yes ☐ No - Why not?

13. Did the activity fulfill the purpose stated by the Guide? ☐ Yes ☐ No - Comment:

14. Were any parts of this activity omitted? ☐ No ☐ Yes - Explain:

15. Your rating of this activity:

☐ Worthwhile ☐ Of value--needs the ☐ Worth salvaging--make ☐ Worthless  
 --keep as is revision suggested major changes described --drop it

SPECIFIC CONCERNS ABOUT THIS ACTIVITY:

[illegible]

- |     |   |                                     |                                       |  |          |
|-----|---|-------------------------------------|---------------------------------------|--|----------|
| 9.  | Maturity level is   | <input type="checkbox"/> just right | <input type="checkbox"/> too childish | <input type="checkbox"/> too mature    | Explain: |
| 10. | Vocabulary level is                                       | <input type="checkbox"/> just right | <input type="checkbox"/> too easy     | <input type="checkbox"/> too difficult | Explain: |
| 11. | Were teacher instructions clear enough to follow?         | <input type="checkbox"/> Yes        | <input type="checkbox"/> No           | -Pages and Problem:                    |          |
| 12. | Were clues to success and reviews of success helpful?     | <input type="checkbox"/> Yes        | <input type="checkbox"/> No           | -Why not?                              |          |
| 13. | Did the activity fulfill the purpose stated by the Guide? | <input type="checkbox"/> Yes        | <input type="checkbox"/> No           | - Comment:                             |          |
| 14. | Were any parts of this activity omitted?                  | <input type="checkbox"/> No         | <input type="checkbox"/> Yes          | - Explain:                             |          |

15. Your rating of this activity:
- |                                     |   |  |                                    |
|-------------------------------------|---|--|------------------------------------|
| <input type="checkbox"/> Worthwhile | <input type="checkbox"/> Of value--needs the revision suggested | <input type="checkbox"/> Worth salvaging--make major changes described | <input type="checkbox"/> Worthless |
|                                     | --keep as is  |  | --drop it                          |

**SPECIFIC CONCERNS ABOUT THIS ACTIVITY:**

16. There are always parts of activities that are good and need not be changed. What parts of this activity should be retained when the curriculum is revised?

Page(s) : \_\_\_\_\_

17. Did pupils ask questions about any scenes in the slides?  
☐ No      ☐ Yes  
If yes, identify the scene and tell what kind of questions were asked.
18. What was the interest level of most pupils while taking the "slide trip"?  
(Circle one.)  
Low                  Medium                  High
19. How many pupils concluded that land, air, water, shelter, and food are common to all habitats?  
☐ None                  ☐ Some                  ☐ Most: Comment.
20. Concern (or questions) about content:
21. Messages for staff (read immediately):

Have you answered each question, attached annotated Guide, your revisions, student work, etc.?



## Me and my Environment

### OBJECTIVE FOCUS FOR THIS ACTIVITY

#### UNIT GOALS:

1. Explore his immediate environment through a variety of sensory experiences and physical contacts.
3. Create a greater interest in, and a more sensitive attitude toward, his environment.

#### CORE C OBJECTIVES:

2. Examine a variety of habitats.
3. Appreciate the aesthetic and functional qualities of various habitats.

### MATERIALS

\*Styrofoam coffee cups (recycled)  
Collect in advance from your teacher lounge, local restaurant, home, or any other place you can find them.

(Continued on next page)

\*Not furnished in materials kit

### TEACHING STRATEGIES

#### Activity 1-26. A Recycled Spaceship

*The students have already taken an imaginary jet trip to various parts of the world, and now they are going to take an imaginary flight to outer space by way of a spaceship. Before they leave on their long journey, they must first design their own spaceship. Because they will construct this spaceship from recycled materials, they will also be introduced to the term recycle and what it means.*

#### Teacher Preparation:

Prior to this activity, collect the materials listed in the materials column and have them on hand for the construction of the recycled spaceships. Make sure all of the materials (except the tape and glue, of course) have been used previously for some other purpose. Have the materials in bags or boxes out of the students' sight, and have a table ready to place the materials on.



FOCUS FOR THIS ACTIVITY

## ALS:

Explore his immediate environment through a variety of sensory experiences and physical contacts.

Create a greater interest in, and a more sensitive attitude toward, his environment.

## OBJECTIVES:

Examine a variety of habitats.

Appreciate the aesthetic and functional qualities of various habitats.

**TEACHING STRATEGIES****5. A Recycled Spaceship**

have already taken an imaginary jet trip to parts of the world, and now they are going to take a flight to outer space by way of a spaceship. Leave on their long journey, they must first build their own spaceship. Because they will construct it from recycled materials, they will also be introduced to the term recycle and what it means.

Preparation:

For this activity, collect the materials listed in the materials column and have them on hand for the construction of the recycled spaceships. Make sure all materials (except the tape and glue, of course) have not been used previously for some other purpose. Have the materials in bags or boxes out of the students' sight, and the table ready to place the materials on.

## UNIT I.

## EXPLORING MY ENVIRONMENT



## CORE C.

## LANDMARKS IN MY ENVIRONMENT

**BSCS**

## ACTIVITY 1-26. A RECYCLED SPACESHIP

**ANTICIPATED STUDENT BEHAVIORS**

At the end of this activity, each student should:

- have constructed a model.
- have located a place on the globe.
- have learned that to recycle is to reuse.
- have taken a picture of his model spaceship.

ACTIVITY 1-26

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MATERIALS

\*Any other materials that might be collected to use in making their spaceships:

scraps of wood  
construction paper  
paper tubes  
plastic bottles  
tin cans  
used wire  
used string, etc.

\*Cellophane tape or white glue

\*Scissors

\*Globe

Camera (Polaroid Square Shooter)

\*Not furnished in materials kit

TEACHING STRATEGIES

Begin by saying:

WE HAVE SEEN MANY HABITATS AROUND THE WORLD  
(Point to the globe.)

ARE THERE PLACES THAT WE MIGHT VISIT THAT ARE  
NOT SHOWN ON THE GLOBE?

IF WE GO TO THE MOON OR TO OTHER PLANETS, WE  
WILL NEED A SPACESHIP TO TRAVEL IN. SINCE WE  
DON'T HAVE ENOUGH MONEY TO BUY ONE WE WILL HAVE  
TO MAKE OUR OWN SPACESHIP. DOES ANYONE KNOW  
HOW TO BUILD A SPACESHIP?

If the students are enthusiastic about how to build  
spaceship, encourage their discussion. Then say:

WE ALL KNOW THAT IT WOULD BE IMPOSSIBLE TO  
BUILD A REAL SPACESHIP HERE IN THE CLASSROOM  
BECAUSE WE DON'T HAVE THE MONEY OR THE MATERIALS  
NECESSARY TO BUILD ONE THAT ACTUALLY FLIES.  
BUT IF WE DID I AM SURE EACH OF YOU WOULD HAVE  
SOME GOOD IDEAS ABOUT HOW TO CONSTRUCT ONE.  
LET'S DO THE NEXT BEST THING AND BUILD A MODEL  
SPACESHIP INSTEAD.

Spread out on a centrally located table the various  
materials you have collected for the spaceship  
construction.

Say:

THESE ARE THE MATERIALS WITH WHICH YOU CAN  
BUILD A SPACESHIP. YOUR SPACESHIP WILL BE

## TEACHING STRATEGIES

IN MANY HABITATS AROUND THE WORLD  
(the globe.)

PLACES THAT WE MIGHT VISIT THAT ARE  
IN THE GLOBE?

THE MOON OR TO OTHER PLANETS, WE  
SPACESHIP TO TRAVEL IN. SINCE WE  
ENOUGH MONEY TO BUY ONE WE WILL HAVE  
OWN SPACESHIP. DOES ANYONE KNOW  
A SPACESHIP?

are enthusiastic about how to build a  
stage their discussion. Then say:

THAT IT WOULD BE IMPOSSIBLE TO  
L SPACESHIP HERE IN THE CLASSROOM  
DON'T HAVE THE MONEY OR THE MATERIALS  
O BUILD ONE THAT ACTUALLY FLIES.  
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DEAS ABOUT HOW TO CONSTRUCT ONE.  
E NEXT BEST THING AND BUILD A MODEL  
NSTEAD.

centrally located table the various  
ve collected for the spaceship

THE MATERIALS WITH WHICH YOU CAN  
CESHIP. YOUR SPACESHIP WILL BE

## ANTICIPATED STUDENT BEHAVIORS

Students:

--suggest places in outer space (Moon, planets),  
under the sea, etc.

--respond, "I do, I do," "You need a big rocket,"  
"Yeah, I could do it," "I could build the outside,"  
etc.

## MATERIALS

## TEACHING STRATEGIES

A SPECIAL KIND -- IT WILL BE A RECYCLED SPACESHIP.

Write the phrase "recycled spaceship" on the chalkboard.

DOES ANYONE KNOW WHAT "RECYCLED" MEANS?

Since the term recycle is widely used today in newspapers, magazines, advertisements, and TV, some students in the class may know the meaning. If not, again direct their attention to the materials on the table and say:

WHAT IS IT ABOUT THESE THINGS THAT IS ALIKE?

There are a number of logical ways the materials could be compared, such as color, shape, hard or soft, etc. Praise all logical comparisons, but if no one suggests that all the materials are secondhand, say:

YOU HAVE MENTIONED SEVERAL WAYS IN WHICH THESE MATERIALS ARE ALIKE. ONE THING YOU MAY NOT HAVE NOTICED, HOWEVER, IS THAT ALL OF THESE THINGS HAVE ALREADY BEEN USED BEFORE. BY USING THEM AGAIN WE WILL BE RECYCLING THEM OR REUSING THEM.

HOW HAVE THE CUPS BEEN USED BEFORE?

Ask the same question about one or more of the other materials until the students realize that all the materials have been used before for one reason or another.

## TEACHING STRATEGIES

-- IT WILL BE A RECYCLED

recycled spaceship" on the chalkboard.

HOW WHAT "RECYCLED" MEANS?

ycle is widely used today in news-  
advertisements, and TV, some students  
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UT THESE THINGS THAT IS ALIKE?

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HOWEVER, IS THAT ALL OF THESE  
READY BEEN USED BEFORE. BY  
IN WE WILL BE RECYCLING THEM  
M.

UPS BEEN USED BEFORE?

on about one or more of the other  
students realize that all the  
used before for one reason or

## ANTICIPATED STUDENT BEHAVIORS

ACTIVITY 1-26

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Students:

--respond, "You're taking it back to the  
store," "We don't throw it away," "You use  
something over again," "Taking pop bottles  
back," etc.

--describe various ways in which the materials are  
similar.

--respond, "Someone drank out of them," "They've  
had coffee in them," etc.

ACTIVITY 1-26



## MATERIALS

## TEACHING STRATEGIES

WHAT THINGS DOES YOUR MOTHER RECYCLE AT HOME?

WHY IS IT GOOD TO RECYCLE MATERIALS?

YOU MAY USE THESE MATERIALS IN ANY WAY YOU WANT TO MAKE A RECYCLED SPACESHIP. SEE IF YOU CAN MAKE ONE DIFFERENT FROM ANY OTHER IN CLASS.

WHAT WILL YOU NEED TO DO BEFORE YOU BEGIN?

To insure creative student models, you should not give any further directions. Encourage the students to work individually. If any student's model is "really wild," encourage him to continue; quickly point out that spaceships of the future could take on many different forms. Do not criticize or suggest changes in any model.

When the spaceships are completed, say:

WHEN WE TOOK OUR JET TRIP AROUND THE WORLD,  
WE FOUND THAT PEOPLE LIVED IN MANY DIFFERENT  
KINDS OF HOMES.

IN WHAT WAYS WERE ALL OF THESE HOMES ALIKE?

IN WHAT WAY IS A SPACESHIP LIKE ONE OF THESE  
HOMES?



## TEACHING STRATEGIES

DOES YOUR MOTHER RECYCLE AT HOME?

HOW TO RECYCLE MATERIALS?

USE THESE MATERIALS IN ANY WAY YOU WANT TO BUILD A RECYCLED SPACESHIP. SEE IF YOU CAN BE DIFFERENT FROM ANY OTHER IN CLASS.

WHAT DO YOU NEED TO DO BEFORE YOU BEGIN?

When viewing student models, you should not give any feedback. Encourage the students to work on their own. If any student's model is "really wild," continue; quickly point out that spaceships could take on many different forms. Encourage students to suggest changes in any model.

When models are completed, say:

LET'S TAKE OUR JET TRIP AROUND THE WORLD, VISITING THE PEOPLE LIVED IN MANY DIFFERENT HOMES.

WERE ALL OF THESE HOMES ALIKE?

HOW IS A SPACESHIP LIKE ONE OF THESE HOMES?

## ANTICIPATED STUDENT BEHAVIORS

Students:

--recall various items such as plastic bags, shopping bags, and containers.

--respond, "It saves money," "Don't waste as much."

--respond, "Think of what we want our spaceships to look like," "Think of what things we want to use."

--construct a model of a spaceship.



--respond, "They all provided shelter, protection, a place to call our own," "A place to keep our things," "A place to live."

--respond, "It provides a place for the astronaut to live while he's out in space."

## MATERIALS

## TEACHING STRATEGIES

The next question sets the stage for the following activity.

SUPPOSE YOU FIRED UP YOUR MODEL SPACESHIP AND FLEW TO OUTER SPACE, WHAT DO YOU THINK THE EARTH WOULD LOOK LIKE?

Save the student models from this activity to be used as a class or school display throughout the duration of this core.



**CAMERA**

Have each student take a picture of his spaceship. You might suggest composing a scene for his picture, i.e., a background for his spaceship. Ask if they want anything special in their picture.

As each picture is taken, fill out Tallysheet 1-5. If a student has to have help with the camera, be sure to note this fact and tell what the problem was. If he has to take more than one shot, report this also. Indicate any other things that will give us clues on the students' ability to do this task.



## ING STRATEGIES

ne stage for the following

YOUR MODEL SPACESHIP AND  
WHAT DO YOU THINK THE  
KE?

From this activity to be used  
play throughout the duration of



## CAMERA TIME

picture of his spaceship. You  
a scene for his picture, i.e.,  
ceship. Ask if they want  
r picture.

, fill out Tallysheet 1-5. If  
ip with the camera, be sure to  
what the problem was. If he has  
ot, report this also. Indicate  
il give us clues on the students'

## ANTICIPATED STUDENT BEHAVIORS

ACTIVITY 1-26 .

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Students:

--speculate on Earth's appearance from a spaceship.

Teacher \_\_\_\_\_  
Date \_\_\_\_\_

UNIT 1, CORE C

TALLYSHEET 1-5: Rating of Ability to Use Polaroid Camera

ACTIVITY 1-26: "Recycled Spaceship"

Rate the ability of each student to use the Polaroid camera and rate the picture taken using the criteria below.

Column 1 (Taking the Picture). Circle OK if student was able to use the camera on his own. If student needed assistance, indicate in HELP NEEDED column what was needed (e.g., focus, light, pulling tabs, timing).

Column 2 (Tries Made). Indicate whether the student obtained a good picture on his first try by circling 1, or circle the number of tries made before obtaining a good picture. If no picture, see column 3.

Column 3 (Good Picture or Problem). See back of tallysheet.

[illegible]

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## ACTIVITY 1-26: "A Recycled Spaceship"

Teacher

Activity name suggested by class:

BSCS USE:	Post	Day 3	Day 4	Day 5	Day 6	Tally	Rev
-----------	------	-------	-------	-------	-------	-------	-----

	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6
1. Date taught (month and date, e.g. 11/2)						
2. Minutes of class time on science each day						
3. Minutes of preparation each day						
4. Students absent on each date (Use ID Number)						

5. Interest of class as expressed by apparent attention to what is happening.Number of students responding with: Name students you noted especially:  
(Number)

HIGH INTEREST	_____
MODERATE INTEREST	_____
INDIFFERENCE	_____
MODERATE RESISTANCE	_____
STRONG DISLIKE	_____
HARD TO RATE	_____

6. Equipment in kit: ☐ None ☐ Satisfactory ☐ Too fragile ☐ Too complicated ☐ Difficult to use7. Equipment I got: ☐ None ☐ Easy to get ☐ Hard to get, but okay ☐ Hard to get, add to kit ☐ Unobtainable, add to kit

8. Materials used:	Worksheet #	Game #	Slides (show slide nos.)	Transparency #	Card(s) #	Tape(s) #	Other #
Worthwhile as is							
Revise slightly							
Revise much							
Worthless: omit							

9. Maturity level is ☐ just right ☐ too childish ☐ too mature Explain:10. Vocabulary level is ☐ just right ☐ too easy ☐ too difficult Explain:11. Were teacher instructions clear enough to follow? ☐ Yes ☐ No - Pages and Problem:12. Were clues to success and reviews of success helpful? ☐ Yes ☐ No - Why not?13. Did the activity fulfill the purpose stated by the Guide? ☐ Yes ☐ No - Comment:14. Were any parts of this activity omitted? ☐ No ☐ Yes - Explain:

15. Your rating of this activity:

☐ Worthwhile ☐ Of value--needs the ☐ Worth salvaging--make ☐ Worthless



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Full Text Provided by ERIC

9. Maturity level is ☐ just right ☐ too childish ☐ too mature Explain:
10. Vocabulary level is ☐ just right ☐ too easy ☐ too difficult Explain:
11. Were teacher instructions clear enough to follow? ☐ Yes ☐ No - Pages and Problem:
12. Were clues to success and reviews of success helpful? ☐ Yes ☐ No - Why not?
13. Did the activity fulfill the purpose stated by the Guide? ☐ Yes ☐ No - Comment:
14. Were any parts of this activity omitted? ☐ No ☐ Yes - Explain:
15. Your rating of this activity:  
☐ worthwhile ☐ Of value--needs the ☐ Worth salvaging--make ☐ Worthless  
--keep as is revision suggested major changes described --drop it
- 
- SPECIFIC CONCERNS ABOUT THIS ACTIVITY:

16. There are always parts of activities that are good and need not be changed.  
What parts of this activity should be retained when the curriculum is revised?  
Page(s) :

17. Did all students create a spaceship model?  
☐ Yes    ☐ No  
If not, who and why not?
18. Did any student have difficulty constructing his spaceship?  
☐ No    ☐ Yes: Who? Explain.
19. Concern (or questions) about content:
20. Messages for staff (read immediately):

Have you answered each question, attached annotated Guide, your revisions, student work, etc.?

**SIDE A**

Teacher \_\_\_\_\_

REPORT OF WHAT HAPPENED AND SUGGESTIONS FOR REVISION

1. Whenever practical write all over your second copy of the Guide. Tear out the activity and send the annotated Guide in with this form.
2. Make specific suggestions - exactly what you think should appear in the Guide.
3. Tell us what you did. Think of what you needed, what you had to work out for yourself, how you presented something to make it go over.
4. Describe the revisions you said were needed in answering the questions on the other side of this form.
5. As a reminder of things that help in revision, read through the following list and check off things you want to be sure to note this time. (We know you can't tell about everything every time!)

THE LESSON

- ☐ how you organized materials or class.
- ☐ things added (a question, a picture, etc.).
- ☐ equipment, supplies, visual aids.
- ☐ things that went wrong, misunderstandings.
- ☐ what you would do differently or avoid next time.
- ☐ turmoil in the class caused by the activity, or disruptive student, or interruptions, and how you dealt with them.

THE STUDENTS

- ☐ who had problems and what they were.
- ☐ how someone "caught on" (or who never did).
- ☐ who was really "tuned off" (or on).
- ☐ reactions of parents, teachers, students.
- ☐ special evidence of learning or applying ideas.



## Me and my Environment

### OBJECTIVE FOCUS FOR THIS ACTIVITY

#### UNIT GOALS:

2. Recognize the environmental components essential for all living things.
3. Create a greater interest in, and a more sensitive attitude toward, his environment.

#### CORE C OBJECTIVES:

2. Examine a variety of habitats.
3. Appreciate the aesthetic and functional qualities of various habitats.
4. Associate the Earth with a finite spaceship.

### MATERIALS

### TEACHING STRATEGIES

#### Activity 1-27. To The Moon In Our Room

*In this activity students will build a large space capsule, plan a simulated space flight, and carry out the flight simulation. In doing so, the student will make a special habitat for man which will require him to identify vital life needs. To make this activity a success, be flexible; use student errors and expressed feelings as opportunities to further their learning experience by questioning and reinforcing.*



FOR THIS ACTIVITY

Recognize the environmental components essential for all living things.

Develop a greater interest in, and a more positive attitude toward, his environment.

OBJECTIVES:

Examine a variety of habitats.

Appreciate the aesthetic and functional qualities of various habitats.

Associate the Earth with a finite spaceship.

**TEACHING STRATEGIES**o The Moon In Our Room

Students will build a large space capsule, related space flight, and carry out the mission. In doing so, the student will make a journey which will require him to identify and record. To make this activity a success, be sure to record errors and expressed feelings as they occur. Further their learning experience by reinforcing.

UNIT I.

EXPLORING MY ENVIRONMENT



**BSCS**

CORE C.

LANDMARKS IN MY ENVIRONMENT

ACTIVITY 1-27. TO THE MOON IN OUR ROOM

**ANTICIPATED STUDENT BEHAVIORS**

At the end of this activity, each student should:

- have participated in pre- and postflight discussions (briefing and debriefing).
- have participated in a discussion of the slides.
- have identified life needs common to all living things.

# ACTIVITY 1-27

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## MATERIALS

- \*Large box with cover (may be obtained from a furniture store, appliance store, factory shipping room, grocery store, etc.)
- \*Paint, brushes, crayons, construction paper, glue, scissors (to decorate capsule)
- \*Heavy duty scissors or tinsnips (to cut cardboard)
- Slides 1-57 through 1-64
- \*35mm Slide projector

\*Not furnished in materials kit

## TEACHING STRATEGIES

### Teacher Preparation:

Obtain a large furniture or appliance box with a cover, and arrange to have it delivered or transported to your classroom so that it will be available in time for this activity.

NOTE: This activity is written to simulate a space flight. However, if classroom area and interest warrant, students may set up a similar capsule for aquanauts (deep sea explorers), for exploring very deep caves or mines, for research in polar regions, or perhaps a research station on a very high mountain like Mt. McKinley (above 20,000 feet). These are all extreme conditions in which man must make special provisions to take care of vital life needs.

If more than one capsule is used, students could work in teams to help their astronaut plan his trip. Teams might interview each other to see what improvements could be made for their own flight, or to determine which spaceman could remain longer in the space capsule.

Begin by saying:

EARLIER WE LOCATED OUR HABITAT ON A MAP. THEN THROUGH SLIDES, WE TOOK A JET TRIP AROUND THE WORLD TO SEE MANY DIFFERENT HABITATS.

NOW WE'RE GOING TO TAKE AN IMAGINARY TRIP TO THE MOON. TO DO THIS WE NEED TO BUILD A SPECIAL HABITAT FOR OUR ASTRONAUT TO LIVE IN WHILE HE'S TRAVELING.

## TEACHING STRATEGIES

on:

urniture or appliance box with a cover,  
ave it delivered or transported to your  
t it will be available in time for this

ivity is written to simulate a space flight.  
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han one capsule is used, students could  
teams to help their astronaut plan his trip.  
nt interview each other to see what  
ts could be made for their own flight, or  
ne which spaceman could remain longer in  
capsule.

LOCATED OUR HABITAT ON A MAP. THEN  
IDES, WE TOOK A JET TRIP AROUND THE  
EE MANY DIFFERENT HABITATS.

GOING TO TAKE AN IMAGINARY TRIP TO  
TO DO THIS WE NEED TO BUILD A  
BITAT FOR OUR ASTRONAUT TO LIVE IN  
TRAVELING.

## ANTICIPATED STUDENT BEHAVIORS

ACTIVITY 1-27

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### MATERIALS

### TEACHING STRATEGIES

Do not give them any clues (such as water, toilet trips, etc.). If they have forgotten any important aspects, (student's name) will point them out the next day and they can be incorporated in future flights.

When the planning discussion is finished and before you allow the students to begin preparing and decorating the box, say:

THE BOX WE ARE USING IS FROM A (furniture store, grocery store, etc.). IT HAS ALREADY BEEN USED.  
WHAT KIND OF SPACE CAPSULE WILL WE BE MAKING?

WHY WILL IT BE A RECYCLED SPACE CAPSULE?

For the rest of the science period (and any other time that is needed) allow the students to decorate and prepare the capsule. They might want to paint it, cut windows, cut a hatch, put a nose cone on it, etc.

## ING STRATEGIES

## ANTICIPATED STUDENT BEHAVIORS

Students:

DON'T ASK LEADING  
QUESTIONS

ues (such as water, toilet trips,  
rgotten any important aspects,  
oint them out the next day and  
d in future flights.

ession is finished and before you  
egin preparing and decorating the

ING IS FROM A (furniture store,  
). IT HAS ALREADY BEEN USED.  
CAPSULE WILL WE BE MAKING?

RECYCLED SPACE CAPSULE?

ence period (and any other time  
ne students to decorate and prepare  
t want to paint it, cut windows,  
cone on it, etc.

--recall the previous activity and respond,  
"A recycled capsule."

--infer that since the box has already been used  
for shipping, they will be reusing or recycling  
the box.



BE CREATIVE

## MATERIALS

## TEACHING STRATEGIES

WE ARE GOING TO CONDUCT SEVERAL SPACE FLIGHTS.  
WHO WOULD LIKE TO BE THE ASTRONAUT FOR OUR  
FIRST FLIGHT?

Choose one of the volunteers for the first (unsuccessful) flight. Pick someone that you think will be emotionally stable in this situation. Bring out or point to the large box.

Say:

THIS BOX IS GOING TO BE OUR SPACE CAPSULE.  
(Student's name), IS GOING TO BE OUR ASTRONAUT.  
HE IS GOING ON A ONE-DAY SPACE FLIGHT TOMORROW.  
WE ARE GOING TO PUT HIM IN THE SPACE CAPSULE  
(box) AT THE BEGINNING OF SCHOOL TOMORROW,  
BLAST HIM OFF, AND LET HIM RETURN FROM SPACE  
BEFORE SCHOOL IS OUT. A GREAT DEAL OF PLANNING  
MUST GO INTO A SPACE FLIGHT SINCE ONCE YOU  
LEAVE EARTH, YOU CANNOT COME BACK TO GET  
SOMETHING YOU FORGOT.

(Student's name), SINCE YOU ARE THE ONE WHO  
WILL SPEND TOMORROW IN THE CAPSULE, WILL YOU  
LEAD A DISCUSSION TO DECIDE WHAT SUPPLIES YOU  
WILL NEED FOR THE TRIP AND HOW THE SPACESHIP  
SHOULD BE DESIGNED?

Guide the astronaut and the rest of the class in preparing a list of what to bring along and in deciding what the ship should look like.

GIVE S  
TIME  
TO  
THINK

## G STRATEGIES

DUCT SEVERAL SPACE FLIGHTS.  
THE ASTRONAUT FOR OUR

ers for the first (unsuccessful)  
at you think will be emotionally  
Bring out or point to the

BE OUR SPACE CAPSULE.  
GOING TO BE OUR ASTRONAUT.  
E-DAY SPACE FLIGHT TOMORROW.  
HIM IN THE SPACE CAPSULE  
ING OF SCHOOL TOMORROW,  
LET HIM RETURN FROM SPACE  
A GREAT DEAL OF PLANNING  
E FLIGHT SINCE ONCE YOU  
NOT COME BACK TO GET  
F.

SINCE YOU ARE THE ONE WHO  
IN THE CAPSULE, WILL YOU  
DECIDE WHAT SUPPLIES YOU  
SHIP AND HOW THE SPACESHIP

the rest of the class in preparing  
along and in deciding what the

## ANTICIPATED STUDENT BEHAVIORS

ACTIVITY 1-27

(203)

Students:

--volunteer to be the first astronaut.

**GIVE STUDENTS  
TIME  
TO  
THINK**



## MATERIALS

## TEACHING STRATEGIES

The next day put (student's name) in the box with all the supplies and provisions planned. Simulate a blast off and then go about class activities as usual, ignoring (student's name) on his flight. It is unlikely that the first flight will last all day! When (student's name) wants out of the box, let him out. Capitalize on his reactions by holding a debriefing session or an interviewing session (perhaps even with a tape recorder) with students asking questions like:

WHAT WAS IT LIKE IN THE CAPSULE?

WHAT DID YOU SEE?

COULD YOU SUGGEST ANYTHING THAT COULD BE CHANGED FOR THE NEXT FLIGHT?

Drawing from the experiences of the first astronaut, plan another flight incorporating the new supply or design suggestions. Continue to have space flights on successive days until many of the following needs have become apparent to the students.

1. It's not comfortable in the box because it is too small.
2. Food and water are necessary for survival.
3. A window helps overcome the feeling of claustrophobia.
4. A way of communicating to people on the earth is helpful. (Set up a formal means to communicate -- tin cans on wire, tape recordings, walkie-talkies, etc.).
5. Having company in the box (two astronauts) helps to alleviate loneliness.
6. Light is necessary in order to see inside the capsule.
7. Air is necessary in order to breathe.



## ING STRATEGIES

(at's name) in the box with all the planned. Simulate a blast off and activities as usual, ignoring (stu-ht. It is unlikely that the all day! When (student's name) et him out. Capitalize on his ebriefing session or an inter- even with a tape recorder) with s like:

THE CAPSULE?

ANYTHING THAT COULD BE  
ET FLIGHT?

ences of the first astronaut, plan  
ating the new supply or design  
o have space flights on succes-  
the following needs have become

le in the box because it is

necessary for survival.  
ercome the feeling of claustro-

ating to people on the earth is  
a formal means to communicate --  
tape recordings, walkie-talkies,

the box (two astror.auts) helps  
iness.

in order to see inside the

n order to breathe.

## ANTICIPATED STUDENT BEHAVIORS

ACTIVITY 1-27

205

Students:

--question (student's name) about his reactions  
while in the capsule.

ACTIVITY 1-27

206

MATERIALS

Slide 1-57



Slide 1-58



Slide 1-59



TEACHING STRATEGIES

8. Things are needed for entertainment to fight boredom.
9. "Space walks" are necessary for waste removal.

Summarize this series of activities with your student listing man's vital life needs on the chalkboard. Use the following cartoons to focus the students' attention on each vital need.

Project Slide 1-57. Then ask:

WHAT LIFE NECESSITY DID THIS ASTRONAUT FORGET?

Project Slide 1-58. Then ask:

WHAT IS THE MATTER WITH THIS ASTRONAUT?

ARE THE WALLS REALLY CLOSING IN ON THE ASTRONAUT?  
WHY?

Project Slide 1-59. Then ask:

WHAT IS THIS ASTRONAUT TRYING TO DO?

CAN HE DO IT?

WHY WOULD HE WANT TO GET BACK TO EARTH?

Project Slide 1-60. Then ask:

WHY CAN'T THE ASTRONAUT FIND THE CONTROLS?

## TEACHING STRATEGIES

needed for entertainment to fight  
ks" are necessary for waste removal.

series of activities with your students by  
tal life needs on the chalkboard. Use the  
ns to focus the students' attention on

57. Then ask:

NECESSITY DID THIS ASTRONAUT FORGET?

58. Then ask:

MATTER WITH THIS ASTRONAUT?

LS REALLY CLOSING IN ON THE ASTRONAUT?

59. Then ask:

S ASTRONAUT TRYING TO DO?

T?

E WANT TO YELL BACK TO EARTH?

60. Then ask:

HE ASTRONAUT FIND THE CONTROLS?

## ANTICIPATED STUDENT BEHAVIORS

Students:

--respond, "Food," "Something to eat."

--respond, "He's afraid," "He doesn't have enough  
room."

--respond, "No, he just feels that they are."

--respond, "Because it's really small."

--respond, "Yell back to Earth."

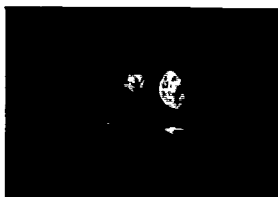
--respond, "No, he's too far away."

--respond, "To tell them something," "To tell the  
control room something is wrong."

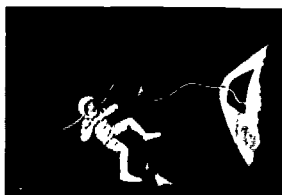
--respond, "The lights are out," "He can't see  
because it's dark."

## MATERIALS

Slide 1-60



Slide 1-61



Slide 1-62



## TEACHING STRATEGIES

Project Slide 1-61 and ask:

WHY DOES THIS ASTRONAUT LOOK SO FUNNY?

Project Slide 1-62 and ask:

WHO WILL WIN THE CHECKER GAME?

WHY?

WHY WOULD THE ASTRONAUT PLAY CHECKERS BY HIMSELF?

Project Slide 1-63 and ask:

WHAT IS THE MATTER WITH THIS ASTRONAUT?

Project Slide 1-64 and ask:

WHAT LIFE NEED HAS THIS ASTRONAUT RUN OUT OF?

Conclude activity by asking:

ARE THERE SOME THINGS THAT ALL LIVING THINGS NEED?

WHAT ARE THEY?

## TEACHING STRATEGIES

-61 and ask:

THIS ASTRONAUT LOOK SO FUNNY?

-62 and ask:

IN THE CHECKER GAME?

THE ASTRONAUT PLAY CHECKERS BY

-63 and ask:

E MATTER WITH THIS ASTRONAUT?

-64 and ask:

NEED HAS THIS ASTRONAUT RUN OUT OF?

ty by asking:

SOME THINGS THAT ALL LIVING THINGS

HEY?

## ANTICIPATED STUDENT BEHAVIORS

ACTIVITY 1-27

(207)

Students:

--respond, "He can't breathe." "Can't get air."

--respond, "The astronaut."

--respond, "Because he's playing by himself."

--respond, "He's bored," "He's lonely and needs something to do," "There's no one else to play with." /

--respond, "He's got to go."

--respond, "Water."

--conclude that there are life necessities common to all living things.

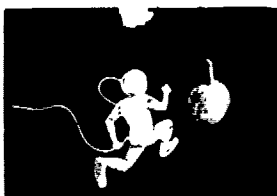
--identify life necessities common to all things such as, water, air, food, light, company, space, or room to live, etc.

ACTIVITY 1-27

208

MATERIALS

Slide 1-63



Slide 1-64



TEACHING STRATEGIES

Now write this list of things on the chalkboard:

Airplane  
School  
House  
Food  
Car  
Water  
Pencil  
Dog  
Telephone  
TV  
Lamp  
Air  
People

Then ask:

DO YOU NEED ALL OF THESE THINGS?

COULD YOU LIVE WITHOUT SOME?

LET'S PICK OUT THOSE THINGS THAT WE COULD NOT  
LIVE WITHOUT OR WHICH ONES DO WE ABSOLUTELY  
NEED?

Have students take turns explaining each item on the list  
as either absolutely essential or not absolutely essential.

Disagreements may arise here over what is essential.  
Students may not think water is essential, for example,  
because they forget that there is water in most things  
they eat.

INVOL  
& SLOW  
STUD

## TEACHING STRATEGIES

of things on the chalkboard:

ALL OF THESE THINGS?

WITHOUT SOME?

THOSE THINGS THAT WE COULD NOT  
FOR WHICH ONES DO WE ABSOLUTELY

turns explaining each item on the list  
ly essential or not absolutely essential.

arise here over what is essential.  
think water is essential, for example,  
there is water in most things

## ANTICIPATED STUDENT BEHAVIORS

Students:

--respond, "No."

--respond, "Yes."

--should identify food, water, and air as  
absolutely essential.

INVOLVE YOUR  
SLOWEST  
STUDENTS

## MATERIALS

## TEACHING STRATEGIES



Conclude the activity at this point by having students take turns naming something in their environment. Have the rest of the class discuss whether it is essential or nonessential to their survival. Make sure students do not get the impression that it is bad or wrong to have nonessential things. The purpose of this part of the activity is to stimulate thought about this idea.

DON'T ASK LEADING  
QUESTIONS

DON'T ASK LEADING  
QUESTIONS



STRATEGIES

ANTICIPATED STUDENT BEHAVIORS

ACTIVITY 1-27

209



DON'T ASK LEADING  
QUESTIONS

At this point by having students  
argue in their environment. Have  
them discuss whether it is essential  
for survival. Make sure students  
understand that it is bad or wrong to have  
the purpose of this part of the  
thought about this idea.

DON'T ASK LEADING  
QUESTIONS

## ACTIVITY 1-27: "To The Moon In Our Room"

Teacher

Activity name suggested by class:

BSCS USE:		Post	Tally	Rev
Day 1	Day 2	Day 3	Day 4	Day 5

	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6
1. Date taught (month and date, e.g. 11/2)						
2. Minutes of class time on science each day						
3. Minutes of preparation each day						
4. Students absent on each date (Use ID Number)						

5. Interest of class as expressed by apparent attention to what is happening.Number of students responding with: Name students you noted especially:  
(Number)

HIGH INTEREST	_____
MODERATE INTEREST	_____
INDIFFERENCE	_____
MODERATE RESISTANCE	_____
STRONG DISLIKE	_____
HARD TO RATE	_____

6. Equipment in kit: ☐ None ☐ Satisfactory ☐ Too fragile ☐ Too complicated ☐ Difficult to use7. Equipment I got: ☐ None ☐ Easy ☐ Hard to get, ☐ Hard to get, ☐ Unobtainable, needed to get but okay add to kit add to kit

Materials used:	Worksheet #	Game #	Slides (show slide nos.)	Transparency #	Card(s) #	Tape(s) #	Other #
Worthwhile as is							
Revise slightly							
Revise much							
Worthless: omit							

9. Maturity level is ☐ just right ☐ too childish ☐ too mature Explain:10. Vocabulary level is ☐ just right ☐ too easy ☐ too difficult Explain:11. Were teacher instructions clear enough to follow? ☐ Yes ☐ No - Pages and Problem:12. Were clues to success and reviews of success helpful? ☐ Yes ☐ No - Why not?13. Did the activity fulfill the purpose stated by the Guide? ☐ Yes ☐ No - Comment:14. Were any parts of this activity omitted? ☐ No ☐ Yes - Explain:

15. Your rating of this activity:

☐ Worthwhile ☐ Of value--needs the ☐ Worth salvaging--make ☐ Worthless  
--keep as is revision suggested major changes described --drop it

SPECIFIC CONCERNS ABOUT THIS ACTIVITY:

	#	#	#	#	#	#	#	#	#
Worthwhile as is									
Revise slightly									
Revise much									
Worthless: omit									

9. Maturity level is ☐ just right ☐ too childish ☐ too mature Explain:
10. Vocabulary level is ☐ just right ☐ too easy ☐ too difficult Explain:
11. Were teacher instructions clear enough to follow? ☐ Yes ☐ No -Pages and Problem:
12. Were clues to success and reviews of success helpful? ☐ Yes ☐ No -Why not?
13. Did the activity fulfill the purpose stated by the Guide? ☐ Yes ☐ No - Comment:
14. Were any parts of this activity omitted? ☐ No ☐ Yes - Explain:
15. Your rating of this activity:  
☐ Worthwhile ☐ Of value--needs the ☐ Worth salvaging--make ☐ Worthless  
--keep as is revision suggested major changes described --drop it  
-----  
SPECIFIC COMMENTS ABOUT THIS ACTIVITY:

16. There are always parts of activities that are good and need not be changed.  
What parts of this activity should be retained when the curriculum is revised?  
Page(s) \_\_\_\_\_:

17. What kind of capsule(s) did students choose to make?  
☐ Space ☐ Sea ☐ Cave ☐ Poles ☐ Mountain: Comment.
18. What modifications and additions were made to the capsule after the first flight?
19. Who went on the flights?
20. Concern (or questions) about content:
21. Messages for staff (read immediately):

BSCS Evaluation: FMH Feedback Form 1c

Have you answered each question, attached annotated Guide, your revisions, student work, etc.?

SIDE A

Teacher \_\_\_\_\_

REPORT OF WHAT HAPPENED AND SUGGESTIONS FOR REVISION

1. Whenever practical write all over your second copy of the Guide. Tear out the activity and send the annotated Guide in with this form.
2. Make specific suggestions - exactly what you think should appear in the Guide.
3. Tell us what you did. Think of what you needed, what you had to work out for yourself, how you presented something to make it go over.
4. Describe the revisions you said were needed in answering the questions on the other side of this form.
5. As a reminder of things that help in revision, read through the following list and check off things you want to be sure to note this time. (We know you can't tell about everything every time!)

THE LESSON

- ☐ how you organized materials or class.
- ☐ things added (a question, a picture, etc.).
- ☐ equipment, supplies, visual aids.
- ☐ things that went wrong, misunderstandings.
- ☐ what you would do differently
  - or avoid next time.
- ☐ turmoil in the class caused by the activity, or disruptive students, or interruptions, and how you dealt with them.

THE STUDENTS

- ☐ who had problems and what they were.
- ☐ how someone "caught on" (or who never did).
- ☐ who was really "turned off" (or on).
- ☐ reactions of parents, teachers, students.
- ☐ special evidence of learning or applying ideas.



## Me and my Environment

### OBJECTIVE FOCUS FOR THIS ACTIVITY

#### UNIT GOALS:

3. Create a greater interest in, and a more sensitive attitude toward, his environment.
4. Understand that his environment includes the whole Earth.

#### CORE C OBJECTIVES:

1. Become aware that there are certain environmental landmarks and that these may serve to orient him to his environment.
2. Examine a variety of habitats.
4. Associate the Earth with a finite spaceship.

### MATERIALS

### TEACHING STRATEGIES

#### Activity 1-28. Far Out Habitats

*After forming some perspective and awareness of the planet Earth from close up, the student will now view it from outer space and briefly compare the Earth's environment with the Moon's environment. The last slide will provide a transition to the next core, Microbes And Me.*

THIS ACTIVITY

a greater interest in, and a more  
positive attitude toward, his environment.

and that his environment includes  
the Earth.

6:

aware that there are certain  
mental landmarks and that these  
help to orient him to his environment.

a variety of habitats.

the Earth with a finite spaceship.

TEACHING STRATEGIES

Out Habitats

perspective and awareness of the  
the up, the student will now view  
and briefly compare the Earth's  
Moon's environment. The last  
transition to the next core,

UNIT I.

EXPLORING MY ENVIRONMENT



CORE C.

LANDMARKS IN MY  
ENVIRONMENT

**BSCS**

ACTIVITY 1-28. FAR OUT HABITATS

ANTICIPATED STUDENT BEHAVIORS

At the end of this activity, each student should:

- have viewed the sequence of slides showing various scenes from a Moon journey.
- have compared the Earth's environment with that of the Moon and inferred that the Moon does not provide the basic life needs.

ACTIVITY 1-28

(212)

MATERIALS

Slides 1-65 through 1-73  
\*35mm Slide projector

Slide 1-65



Slide 1-66



\*Not furnished in materials kit

TEACHING STRATEGIES

Teacher Preparation:

Set up the projector and screen. Have the set of slides ready for use before class begins. Preview the slides prior to class.

Begin by saying:

LET'S PRETEND WE'RE ALL IN OUR SPACESHIP AND  
WE HAVE JUST BLASTED OFF TOWARD THE MOON.

Project Slide 1-65 and ask:

WHERE ARE YOU NOW?

Project Slide 1-66 and ask:

WHERE ARE YOU NOW?

Project Slide 1-67 and ask:

NOW WHERE ARE YOU?

DO YOU LIKE BEING ON THE MOON? WHY OR WHY  
NOT?

DESCRIBE THE HABITAT YOU SEE ON THE MOON.

HOW IS IT DIFFERENT FROM YOUR HABITAT?

If the students do not recognize the spaceship as a habitat, ask:

## TEACHING STRATEGIES

er and screen. Have the set of slides  
e class begins. Preview the slides

WE'RE ALL IN OUR SPACESHIP AND  
LAUNCHED OFF TOWARD THE MOON.

and ask:

NOW?

and ask:

NOW?

and ask:

YOU?

ING ON THE MOON? WHY OR WHY

HABITAT YOU SEE ON THE MOON.

DIFFERENT FROM YOUR HABITAT?

not recognize the spaceship as a habi-

## ANTICIPATED STUDENT BEHAVIORS

Students:

--view the slide and respond, "On our way to outer  
space in our spaceship," "On our way to the Moon."

--respond, "We've just landed on the Moon." "On  
the Moon."

--respond, "Still on the Moon."

--give varied responses, "Yes," "No," "It's scary,"  
"It's pretty," "Too rocky."

--study and describe the Moonscape.

--compare slide to Earth and relate differences.



## MATERIALS

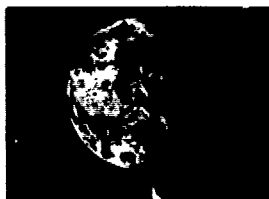
Slide 1-67



Slide 1-68



Slide 1-69



## TEACHING STRATEGIES

WHAT WAS THE ASTRONAUTS' HABITAT WHILE THEY WERE GOING TO THE MOON?

Continue by saying:

WHY DO WE NEED THE SPACESHIP? COULDN'T WE JUST LIVE ON THE MOON?

IS THE MOON A HABITAT FOR ANY LIVING THINGS?

IN WHAT WAYS ARE THE MOON AND EARTH ALIKE?

HOW ARE THEY DIFFERENT?

Project Slide 1-68 and ask:

WHAT DO YOU SEE?

HOW DOES THIS COMPARE TO THE WAY THE MOON LOOKS WHEN WE'RE STANDING ON EARTH?

Project Slide 1-69 and ask:

WHERE ARE YOU NOW?

WHAT DO YOU SEE?

HOW DOES THE DISTANCE FROM THE EARTH IN THIS SLIDE COMPARE WITH THE DISTANCE FROM EARTH IN THE LAST SLIDE?

HOW CAN YOU TELL?

## TEACHING STRATEGIES

ASTRONAUTS' HABITAT WHILE THEY  
ON THE MOON?

THE SPACESHIP? COULDN'T WE  
STAY ON THE MOON?

HABITAT FOR ANY LIVING THINGS?

IS THE MOON AND EARTH ALIKE?

DIFFERENT?

ask:

COMPARE TO THE WAY THE MOON  
IS BEHAVING ON EARTH?

ask:

THE DISTANCE FROM THE EARTH IN THIS  
SLIDE WITH THE DISTANCE FROM EARTH  
IN THE SLIDE?

## ANTICIPATED STUDENT BEHAVIORS

ACTIVITY 1-28

213

Students:

--respond, "Their spaceship."

--respond, "The ship has everything we need in it,"  
"The ship has our food," "The ship has air,"  
"The Moon doesn't have any air," etc.

--respond, "No."

--respond, "Both have rocks, mountains, etc."

--respond, "The Moon doesn't have any water and  
it's dark."

--respond, "The Earth," "Part of the Moon."

--respond, "The Earth's far away," "We're standing  
on the Moon," "It's a different color," "You  
can see the stuff on the Moon."

--respond, "Heading toward Earth," "In space again."

--respond, "Picture of Earth from outer space."

--infer that the distance from the Earth is less  
in this slide.

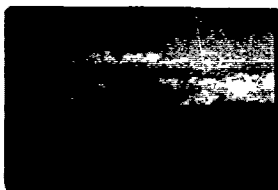
--respond, "We're closer to the Earth," "It looks  
bigger."

ACTIVITY 1-28

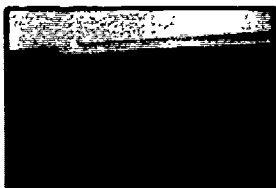
(21)

**MATERIALS**

Slide 1-70



Slide 1-71



**TEACHING STRATEGIES**

WHAT COLORS DO YOU SEE IN THE PICTURE OF THE EARTH?

WHAT DO YOU SUPPOSE MAKES THE EARTH LOOK LIKE THAT?

WHAT COLORS DID YOU SEE ON THE MOON?

WHY ISN'T THE MOON AS COLORFUL AS THE EARTH?

Project Slide 1-70 and ask:

WHERE ARE WE NOW?

WHAT DO YOU SEE?

HOW DOES THE DISTANCE WE ARE FROM THE EARTH NOW COMPARE WITH THE LAST PICTURE?

HOW CAN YOU TELL WE'RE CLOSER?

WHAT DO YOU THINK THE NEXT PICTURE WILL SHOW?

Project Slide 1-71 and ask:

WHERE ARE YOU NOW?

WHY DO YOU THINK OUR SPACESHIP IS OVER THE OCEAN?

WHY DO ASTRONAUTS LAND ON THE OCEAN?

## TEACHING STRATEGIES

WHAT DO YOU SEE IN THE PICTURE OF THE

SCENE THAT MAKES THE EARTH LOOK LIKE

WHAT DO YOU SEE ON THE MOON?

IS THE MOON AS COLORFUL AS THE EARTH?

and ask:

HOW?

WHAT DISTANCE WE ARE FROM THE EARTH  
IN THE LAST PICTURE?

ARE WE'RE CLOSER?

WHAT DO YOU THINK THE NEXT PICTURE WILL SHOW?

and ask:

HOW?

WHAT DO YOU THINK OUR SPACESHIP IS OVER THE

WILL THEY LAND ON THE OCEAN?

## ANTICIPATED STUDENT BEHAVIORS

Students:

--respond, "Blue," "White," "Brownish red."

--infer, "Clouds," "Ocean," "Land," etc.

--respond, "Gray," "Brown," "Black."

--infer that because the Moon doesn't have clouds  
and water it isn't as colorful.

--respond, "Still moving toward Earth."

--respond, "Blue sky," "Water," "Clouds."

--infer that the distance from the Moon is greater in  
this picture. We are getting closer to Earth.

--respond, "Everything's bigger."

--predict that it will be even closer to Earth.

--respond, "Over the water," "Over the ocean."

--recall former experiences of viewing space  
flights and reply, "Because we land there."

--respond, "Otherwise they'd crash," "It's softer  
than the land."

## MATERIALS

Slide 1-72



## TEACHING STRATEGIES

Project Slide 1-72 and ask:

WHAT'S HAPPENED TO US NOW?

WHEN THE HELICOPTER COMES TO PICK US UP WILL WE HAVE TO TAKE OUR OXYGEN SUPPLY WITH US AND WEAR OUR SPACE SUIT LIKE WE HAD TO ON THE MOON? WHY NOT?

HOW DOES THE ENVIRONMENT ON THE MOON COMPARE TO THE ENVIRONMENT ON THE EARTH?

WE'RE BACK TO OUR NORMAL HABITAT NOW -- EARTH. WHAT TOOK THE PLACE OF OUR EARTH HABITAT WHEN WE WERE ON THE MOON?

HOW COULD THE SPACESHIP TAKE THE PLACE OF THE EARTH?

DOES EVERYONE ON EARTH HAVE EVERYTHING THEY NEED TO KEEP ALIVE?

Discuss places with shortages, such as not enough food in some countries; running out of water or having it contaminated in a flood, etc; pollution in cities affecting the air; disasters destroying shelters. Use current events when possible.

## STRATEGIES

NOW?

WILL WE BE PICKED UP BY  
OXYGEN SUPPLY WITH US AND  
LIKE WE HAD TO ON THE MOON?

ON THE MOON COMPARE  
THE EARTH?

OUR HABITAT NOW -- EARTH.  
OUR EARTH HABITAT WHEN

TAKE THE PLACE OF THE

HAVE EVERYTHING THEY

es, such as not enough food in  
of water or having it con-  
pollution in cities affecting  
ng shelters. Use current

## ANTICIPATED STUDENT BEHAVIORS

ACTIVITY 1-28

215

Students:

--respond, "We have landed."

--respond, "No," "Of course not," and give reasons  
such as, "Because the Earth has air already,"  
"Because we live here."

--infer that the Moon does not provide basic life  
needs because the astronaut must have a special  
space suit and live in his spaceship in order  
to survive.

--respond, "The spaceship."

--respond, "Because it had everything we needed to  
keep alive."

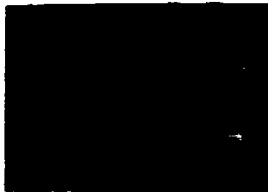
--various responses but will probably respond,  
"No."

ACTIVITY 1-28

216

### MATERIALS

Slide 1-73



### TEACHING STRATEGIES

Ask:

COULD THE EARTH RUN OUT OF THE THINGS WE NEED FOR LIFE?

Say:

SOMEDAY THERE MIGHT NOT BE ENOUGH TO GO AROUND UNLESS WE RECYCLE SOME THINGS AND KNOW TO PLAN AHEAD. THAT IS WHY WE ARE STUDYING ME AND MY ENVIRONMENT.

Project Slide 1-73 and say:

WHAT IS THIS A PICTURE OF?

WE HAVE EXPLORED OUR HABITAT, THE EARTH, AND WE HAVE GONE TO THE MOON TO EXPLORE THAT ENVIRONMENT AND TO SEE IF IT IS A HABITAT FOR ANYTHING. NOW WE HAVE SPLASHED DOWN IN THE WATER.

THE WATER YOU SEE IS ON THE WINDOW OF THE SPACECRAFT. DOES ANY LIVING THING LIVE IN THIS DROP OF WATER? CAN A DROP OF WATER BE A HABITAT?

DO NOT provide answers to this question at this time. This question is meant merely to stimulate thought and discussion as preparation for the activities of the next core.

?  
ACQ  
AN

## ING STRATEGIES

N OUT OF THE THINGS WE NEED

T NOT BE ENOUGH TO GO AROUND  
SOME THINGS AND KNOW TO PLAN  
Y WE ARE STUDYING ME AND MY

say:

TURE OF?

UR HABITAT, THE EARTH, AND  
E MOON TO EXPLORE THAT  
SEE IF IT IS A HABITAT  
WE HAVE SPLASHED DOWN IN

IS ON THE WINDOW OF THE  
ANY LIVING THING LIVE IN  
? CAN A DROP OF WATER

to this question at this time. This  
y to stimulate thought and discus-  
the activities of the next core.

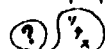
## ANTICIPATED STUDENT BEHAVIORS

Students:

--respond, "Yes."

--respond, "A drop of water."

--respond with a variety of opinions and answers.

  
**ACCEPT ALL  
ANSWERS**





## Me and my Environment

### OBJECTIVE FOCUS FOR THIS ACTIVITY

#### UNIT GOALS:

1. Explore his immediate environment through a variety of sensory experiences and physical contacts.
2. Recognize the environmental components essential for all living things.
3. Create a greater interest in, and a more sensitive attitude toward, his environment.

#### CORE C OBJECTIVES:

1. Become aware that there are certain environmental landmarks and that these may serve to orient him to his environment.
2. Examine a variety of habitats.
3. Appreciate the aesthetic and functional qualities of various habitats.
4. Associate the Earth with a finite spaceship.

### MATERIALS

### TEACHING STRATEGIES

#### Activity 1-29. Review Of Success

*The purpose of this activity is to make the student aware of what he has learned in this core. The worksheets provide opportunities for you to praise his success or provide encouragement and further help.*

THIS ACTIVITY

his immediate environment through  
ty of sensory experiences and  
l contacts.

ze the environmental components  
al for all living things.

a greater interest in, and a more  
ve attitude toward, his environment.

S:

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TEACHING STRATEGIES

Review Of Success

activity is to make the student aware  
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t and further help.

UNIT I.

EXPLORING MY ENVIRONMENT



**BSCS**

CORE C.

LANDMARKS IN MY  
ENVIRONMENT

ACTIVITY 1-29. REVIEW OF SUCCESS

ANTICIPATED STUDENT BEHAVIORS

At the end of this activity, each student should:

- have completed Worksheets 1-12 and 1-13.
- have discussed and defended his answers to the  
seven items.

# ACTIVITY 1-29

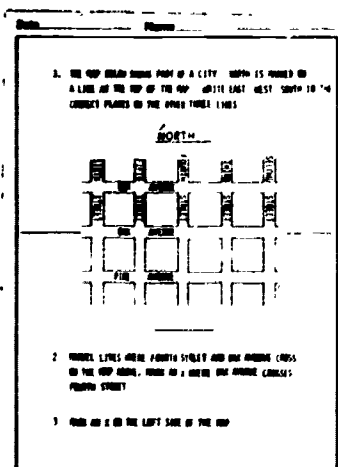
210

## MATERIALS

Worksheet 1-12  
Worksheet 1-13  
Slides 1-74 through 1-78  
\*35mm slide projector

Worksheet 1-12

Slide 1-74



Slide 1-75

1. RELAY ARE RECORDING THE TEMPERATURE TAKEN FIVE DAYS  
IN A ROW IN TWO DIFFERENT PLACES. ONE SHOWS THE TEMPERA-  
TURE OPPOSITE OF A SCHOOL HOUSE. THE OTHER SHOWS THE  
TEMPERATURE IN A CLASSROOM.

RELAY ARE RECORDING THE TEMPERATURE TAKEN FIVE DAYS  
IN A ROW IN TWO DIFFERENT PLACES. ONE SHOWS THE TEMPERA-  
TURE OPPOSITE OF A SCHOOL HOUSE. THE OTHER SHOWS THE  
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RELAY ARE RECORDING THE TEMPERATURE TAKEN FIVE DAYS  
IN A ROW IN TWO DIFFERENT PLACES. ONE SHOWS THE TEMPERA-  
TURE OPPOSITE OF A SCHOOL HOUSE. THE OTHER SHOWS THE  
TEMPERATURE IN A CLASSROOM.

\*Not furnished in materials kit

## TEACHING STRATEGIES

Begin this activity by saying:

TODAY LET'S THINK ABOUT SOME OF THE THINGS WE  
HAVE LEARNED THE LAST SEVERAL WEEKS. I WILL  
HAND OUT A WORKSHEET TO YOU. AS I READ EACH  
QUESTION ON IT, MARK WHAT YOU THINK IS THE  
BEST ANSWER ON YOUR WORKSHEET. WE WILL WAIT  
TO TALK ABOUT YOUR ANSWERS UNTIL AFTER WE HAVE  
COMPLETED THE WORKSHEET. ARE THERE ANY QUESTIONS?

Distribute Worksheet 1-12 containing five questions, and  
have students put their names and the date on it.

Project Slide 1-74. Read question number 1 aloud to the  
students. Make sure students are looking at and marking  
the question that is being read. Read the item a second  
time, allowing ample time for them to write in the three  
directions on their worksheets. Repeat this procedure  
for questions 2 and 3 that are also on this slide. Con-  
tinue this procedure for question 4 (Slide 1-75) and  
question 5 (Slide 1-76) on the back of this worksheet.

After all students have answered the questions on Work-  
sheet 1-12, collect their worksheets. Then project each  
slide (1-74, 1-75, and 1-76) again and discuss the  
answers with them. Involve many students and accept all  
answers that they can justify. Let them know how success-  
ful they are.

GIVE  
STUDEN  
TO

## TEACHING STRATEGIES

by saying:


THINK ABOUT SOME OF THE THINGS WE  
DID LAST SEVERAL WEEKS. I WILL  
DISTRIBUTE A WORKSHEET TO YOU. AS I READ EACH  
ITEM, MARK WHAT YOU THINK IS THE  
BEST ANSWER ON YOUR WORKSHEET. WE WILL WAIT  
FOR YOUR ANSWERS UNTIL AFTER WE HAVE  
FINISHED OUR WORKSHEET. ARE THERE ANY QUESTIONS?

1-12 containing five questions, and  
write their names and the date on it.

Read question number 1 aloud to the  
students as they are looking at and marking  
the item being read. Read the item a second  
time for them to write in the three  
worksheets. Repeat this procedure  
for questions 2-3 that are also on this slide. Con-  
tinue for question 4 (Slide 1-75) and  
question 5 (Slide 1-76) on the back of this worksheet.

After students have answered the questions on Work-  
sheets, project each question (Slide 1-76)  
again and discuss the answers. Involve many students and accept all  
answers. Let them know how success-

## ANTICIPATED STUDENT BEHAVIORS

  
**GIVE SEVERAL  
STUDENTS A CHANCE  
TO RESPOND**

## ACTIVITY 1-28: "A Different Environment"

Activity name suggested by class:	Teacher					
	BSCS USE:		Post	Tally	Rev	
	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6

1.	Date taught (month and date, e.g. 11/2)					
2.	Minutes of class time on science each day					
3.	Minutes of preparation each day					
4.	Students absent on each date (Use ID Number)					

5. Interest of class as expressed by apparent attention to what is happening.

Number of students responding with: Name students you noted especially:

HIGH INTEREST	→				
MODERATE INTEREST					
INDIFFERENCE					
MODERATE RESISTANCE					
STRONG DISLIKE					
HARD TO RATE	→				

6. Equipment in kit: ☐ None ☐ Satisfactory ☐ Too fragile ☐ Too complicated ☐ Difficult to use
7. Equipment I got: ☐ None ☐ Easy to get ☐ Hard to get, but okay ☐ Hard to get, add to kit ☐ Unobtainable, add to kit

Materials used:	Worksheet #	Game #	Slides (show slide nos.)	Transparency #	Card(s) #	Tape(s) #	Other #
Worthwhile as is							
Revise slightly							
Revise much							
Worthless: omit							

9. Maturity level is ☐ just right ☐ too childish ☐ too mature Explain:
10. Vocabulary level is ☐ just right ☐ too easy ☐ too difficult Explain:
11. Were teacher instructions clear enough to follow? ☐ Yes ☐ No - Pages and Problem:
12. Were clues to success and reviews of success helpful? ☐ Yes ☐ No - Why not?
13. Did the activity fulfill the purpose stated by the Guide? ☐ Yes ☐ No - Comment:
14. Were any parts of this activity omitted? ☐ No ☐ Yes - Explain:
15. Your rating of this activity:  
☐ Worthwhile ☐ Of value--needs the ☐ Worth salvaging--make ☐ Worthless  
--keep as is revision suggested major changes described --drop it

Materials used:	Worksheets	Game	Slides (show slide nos.)	Transparency	Audio (s)	Video (s)	Time
Worthwhile as is	#	#		#	#	#	#
Revise slightly							
Revise much							
Worthless: omit							

9. Maturity level is ☐ just right ☐ too childish ☐ too mature Explain:
10. Vocabulary level is ☐ just right ☐ too easy ☐ too difficult Explain:
11. Were teacher instructions clear enough to follow? ☐ Yes ☐ No - Pages and Problems:
12. Were clues to success and reviews of success helpful? ☐ Yes ☐ No - Why not?
13. Did the activity fulfill the purpose stated by the Guide? ☐ Yes ☐ No - Comment:
14. Were any parts of this activity omitted? ☐ No ☐ Yes - Explain:
15. Your rating of this activity:
  - ☐ Worthwhile ☐ Of value--needs the ☐ Worth salvaging--make ☐ Worthless
  - keep as is revision suggested major changes described --drop it

SPECIFIC CONCERNS ABOUT THIS ACTIVITY:

16. There are always parts of activities that are good and need not be changed.  
What parts of this activity should be retained when the curriculum is revised?  
page(s) \_\_\_\_\_
17. What similarities in the earth and the moon did your students mention?
18. What differences between the earth and moon were pointed out by your students?
19. How many of your students understood the idea that the earth could run out of things needed for life?
  - ☐ None ☐ Some ☐ Most: Comment.
20. Concern (or questions) about content:
21. Messages for staff (read immediately):

BSCS Evaluation: EMH Feedback Form 1c

## ACTIVITY 1-28: "A Different Environment"

Teacher \_\_\_\_\_

## REPORT OF WHAT HAPPENED AND SUGGESTIONS FOR REVISION

1. Whenever practical write all over your second copy of the Guide. Tear out the activity and send the annotated Guide in with this form.
2. Make specific suggestions - exactly what you think should appear in the Guide.
3. Tell us what you did. Think of what you needed, what you had to work out for yourself, how you presented something to make it go over.
4. Describe the revisions you said were needed in answering the questions on the other side of this form.
5. As a reminder of things that help in revision, read through the following list and check off things you want to be sure to note this time. (We know you can't tell about everything every time!)

## THE LESSON

- ☐ how you organized materials or class.
- ☐ things added (a question, a picture, etc.).
- ☐ equipment, supplies, visual aids.
- ☐ things that went wrong, misunderstandings.
- ☐ what you would do differently or avoid next time.
- ☐ turmoil in the class caused by the activity, or disruptive students, or interruptions, and how you dealt with them.

## THE STUDENTS

- ☐ who had problems and what they were.
- ☐ how someone "caught on" (or who never did).
- ☐ who was really "turned off" (or on).
- ☐ reactions of parents, teachers, students.
- ☐ special evidence of learning or applying ideas.

## MATERIALS

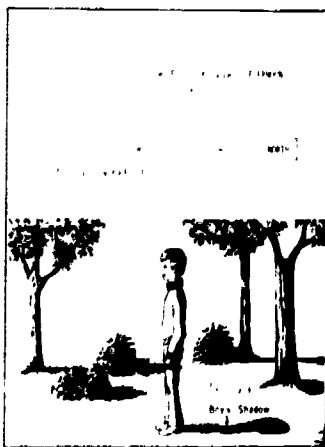
Slide 1-76



Worksheet 1-13

Slide 1-77

Slide 1-78



## TEACHING STRATEGIES

After discussion of the questions on Worksheet 1-12, pass out Worksheet 1-13 and repeat this procedure for questions 6 and 7 (Slides 1-77 and 1-78). Again collect completed worksheets, project slides again, and discuss the answers. Question 7 may prove difficult for students. Ask students to identify the various clues that indicate that the boy is facing towards the west. You may have to give hints such as:

WHAT TIME OF DAY IS IT?

WHERE ARE THE SHADOWS?

WHERE IS YOUR SHADOW WHEN YOU FACE TOWARDS THE SUN?

IN WHAT DIRECTION IS THE SUN IN THE AFTERNOON?

HOW DO YOU KNOW THEN THAT THE BOY IN THE QUESTION IS FACING WEST?

Later you will record student answers to Worksheets 1-12 and 1-13 on Tallysheet 1-5 and consider whether the whole class needs further review or if a few individuals need special attention.



## CHING STRATEGIES

the questions on Worksheet 1-12, pass  
nd repeat this procedure for questions  
and 1-78). Again collect completed  
slides again, and discuss the answers.  
difficult for students. Ask students  
ous clues that indicate that the boy  
e west. You may have to give hints

Y IS IT?

HADOWS?

HADOW WHEN YOU FACE TOWARDS

ON IS THE SUN IN THE AFTERNOON?

THEN THAT THE BOY IN THE  
ING WEST?

nd student answers to Worksheets 1-12  
et 1-5 and consider whether the whole  
review or if a few individuals need

## ANTICIPATED STUDENT BEHAVIORS

ACTIVITY 1-29

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Students:

--recall from the question that it is afternoon.

--study the picture and point them out or indicate,  
"To the boy's back."

--indicate, "Behind you."

--respond, "West."

--respond, "It is afternoon and his shadow is  
behind him."

UNIT I, CORE C  
TALLYSHEET 1-6: Tally of Worksheet 1-12 and 1-13  
ACTIVITY 1-29: "Review Of Success"

11. Map Directions. Make a check mark in each column that is correctly labeled on the map. Most should answer south correctly. Note how many reverse east and west. This may be associated with not knowing left and right. Provide practice for those who need it in a gamelike atmosphere.

2 (Locate Corner). Circle yes if the student marked the correct intersection or any corner at that intersection.

3 (Knows Left). Circle yes if the student marked an X on the left side of the map.

4 (Temp. Outside). Circle the letter each student marked. The correct answer is A, the record of outside temperature. If students have difficulty with this item, discuss the records of temperature the class kept and compare it to the examples in this item.

5 (Recycle). Circle the letter each student marked. The correct answer is C (use it again in some way).

6 (Life Needs). See back of sheet.

[illegible]

west south east	yes	no	yes	no	A	B	A	B	C	D
west south east	yes	no	yes	no	A	B	A	B	C	D
west south east	yes	no	yes	no	A	B	A	B	C	D
west south east	yes	no	yes	no	A	B	A	B	C	D
west south east	yes	no	yes	no	A	B	A	B	C	D
west south east	yes	no	yes	no	A	B	A	B	C	D
west south east	yes	no	yes	no	A	B	A	B	C	D
west south east	yes	no	yes	no	A	B	A	B	C	D
west south east	yes	no	yes	no	A	B	A	B	C	D
west south east	yes	no	yes	no	A	B	A	B	C	D
west south east	yes	no	yes	no	A	B	A	B	C	D
west south east	yes	no	yes	no	A	B	A	B	C	D
west south east	yes	no	yes	no	A	B	A	B	C	D
west south east	yes	no	yes	no	A	B	A	B	C	D
west south east	yes	no	yes	no	A	B	A	B	C	D
west south east	yes	no	yes	no	A	B	A	B	C	D
west south east	yes	no	yes	no	A	B	A	B	C	D
west south east	yes	no	yes	no	A	B	A	B	C	D
west south east	yes	no	yes	no	A	B	A	B	C	D

☐ Yes ☐ No

Does this review give an accurate indication of student understanding?  
If not, what other evidence do you have of student learning?

7 (Directions in Picture). Circle the letter each student marked. The correct answer is B (west). This item involves a number of understandings:

- If students encounter difficulty, use a real scene and then the picture to practice orientation.

[illegible]

air	food	water	friends	shelter	A	B	C	D
air	food	water	friends	shelter	A	B	C	D
air	food	water	friends	shelter	A	B	C	D
air	food	water	friends	shelter	A	B	C	D
air	food	water	friends	shelter	A	B	C	D
air	food	water	friends	shelter	A	B	C	D
air	food	water	friends	shelter	A	B	C	D
air	food	water	friends	shelter	A	B	C	D
air	food	water	friends	shelter	A	B	C	D
air	food	water	friends	shelter	A	B	C	D
air	food	water	friends	shelter	A	B	C	D
air	food	water	friends	shelter	A	B	C	D
air	food	water	friends	shelter	A	B	C	D
air	food	water	friends	shelter	A	B	C	D
air	food	water	friends	shelter	A	B	C	D
air	food	water	friends	shelter	A	B	C	D
air	food	water	friends	shelter	A	B	C	D
air	food	water	friends	shelter	A	B	C	D
air	food	water	friends	shelter	A	B	C	D

Does this review give an accurate indication of student understanding? ☐ Yes ☐ No  
 If not, what other evidence do you have of student learning?

## ACTIVITY 1-29: "Review of Success"

Activity name suggested by class:

Teacher

BSCS USE:	Post	Tally	Rev		
Day 1	Day 2	Day 3	Day 4	Day 5	Day 6

1.	Date taught (month and date, e.g. 11/2)								
2.	Minutes of class time on science each day								
3.	Minutes of preparation each day								
4.	Students absent on each date (Use ID Number)								

5. Interest of class as expressed by apparent attention to what is happening.Number of students responding with: Name students you noted especially:  
(Number)

HIGH INTEREST	_____
MODERATE INTEREST	_____
INDIFFERENCE	_____
MODERATE RESISTANCE	_____
STRONG DISLIKE	_____
HARD TO RATE	_____

6. Equipment in kit: ☐ None ☐ Satisfactory ☐ Too fragile ☐ Too complicated ☐ Difficult to use7. Equipment I got: ☐ None needed ☐ Easy to get ☐ Hard to get, but okay ☐ Hard to get, add to kit ☐ Unobtainable, add to kit

8.	Materials used:	Worksheet #	Game #	Slides (show slide nos.)	Transparency #	Card(s) #	Tape(s) #	Other #
	Worthwhile as is							
	Revise slightly							
	Revise much							
	Worthless: omit							

9. Maturity level is ☐ just right ☐ too childish ☐ too mature Explain:10. Vocabulary level is ☐ just right ☐ too easy ☐ too difficult Explain:11. Were teacher instructions clear enough to follow? ☐ Yes ☐ No - Pages and Problem:12. Were clues to success and reviews of success helpful? ☐ Yes ☐ No - Why not?13. Did the activity fulfill the purpose stated by the Guide? ☐ Yes ☐ No - Comment:14. Were any parts of this activity omitted? ☐ No ☐ Yes - Explain:

15. Your rating of this activity:

☐ Worthwhile ☐ Of value--needs the ☐ Worth salvaging--make ☐ Worthless  
--keep as is ☐ revision suggested ☐ major changes described ☐ --drop it

SPECIFIC CONCERNS ABOUT THIS ACTIVITY:

Materials used:	Worksheet	Game	Slides (show slide nos.)	Transparency	Card(s)	Tape(s)	Other
	#	#	#	#	#	#	#
Worthwhile as is							
Revise slightly							
Revise much							
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  13. Did the activity fulfill the purpose stated by the Guide? ☐ Yes ☐ No - Comment:
  14. Were any parts of this activity omitted? ☐ No ☐ Yes - Explain:
  15. Your rating of this activity:
    - ☐ Worthwhile ☐ Of value--needs the ☐ Worth salvaging--make ☐ Worthless
    - keep as is revision suggested major changes described --drop it
- SPECIFIC CONCERNS ABOUT THIS ACTIVITY:
16. There are always parts of activities that are good and need not be changed.  
 What parts of this activity should be retained when the curriculum is revised?  
 Page(s) \_\_\_\_\_:

17. Did any student give away any answer on Worksheet 1-12 or 1-13?  
☐ No ☐ Yes: Comment.
18. Please complete Tallysheet 1-6 and send it in with this feedback sheet.
19. Concern (or questions) about content:
20. Messages for staff (read immediately):

BSCS Evaluation: EMH Feedback Form 1c

## ACTIVITY 1-29: "Review Of Success"

Teacher \_\_\_\_\_

## REPORT OF WHAT HAPPENED AND SUGGESTIONS FOR REVISION

1. Whenever practical write all over your second copy of the Guide. Tear out the activity and send the annotated Guide in with this form.
2. Make specific suggestions - exactly what you think should appear in the Guide.
3. Tell us what you did. Think of what you needed, what you had to work out for yourself, how you presented something to make it go over.
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5. As a reminder of things that help in revision, read through the following list and check off things you want to be sure to note this time. (We know you can't tell about everything every time!)

## THE LESSON

- ☐ how you organized materials or class.
- ☐ things added (a question, a picture, etc.).
- ☐ equipment, supplies, visual aids.
- ☐ things that went wrong, misunderstandings.
- ☐ what you would do differently or avoid next time.
- ☐ turmoil in the class caused by the activity, or disruptive students, or interruptions, and how you dealt with them.

## THE STUDENTS

- ☐ who had problems and what they were.
- ☐ how someone "caught on" (or who never did).
- ☐ who was really "turned off" (or on).
- ☐ reactions of parents, teachers, students.
- ☐ special evidence of learning or applying ideas.



UNIT 1  
REACTIONS TO CORE C

1. Was the background information for this core adequate? ☐ Yes ☐ No  
Comment:
2. Was it clear to you why these particular activities were chosen and the direction they were leading? ☐ Yes ☐ No  
Comment:
3. Did the activities fulfill the purposes stated in the Guide for this core? ☐ Yes ☐ No  
Comment:
4. How would you increase the clarity of this core for students? (Help them understand why they are doing these activities.)
5. Is there a practical (take-home) value for your students in these activities? ☐ Yes ☐ No  
6. If yes, what do you see as the "take-home" lesson? If no, what is needed?
7. In these materials, what things did your students find difficult to do?
8. Should there be more clues to success or reviews of success in this core? ☐ Yes ☐ No  
Comment:
9. Was there too much reading and too many teacher directions? ☐ Yes ☐ No  
Comment:
10. Did you make use of the Planning Guide? ☐ Yes ☐ No  
Comment:

7. In these materials, what things did your students find difficult to do?
8. Should there be more clues to success or reviews of success in this core? ☐ Yes ☐ No  
Comment:
9. Was there too much reading and too many teacher directions? ☐ Yes ☐ No  
Comment:
10. Did you make use of the Planning Guide? ☐ Yes ☐ No  
Comment:
11. If you could teach your way, rather than following the Guide, how would you do it?
12. Which of your students do you believe were unsuccessful in achieving the objectives of this core of activities? Explain.

BSCS Evaluation: EMH Feedback Form 2a

NEW STUDENTS ENTERING DURING THIS CORE

Date Entered	Last Name	Name Used	Ethnic Group	Sex	Birthdate	Test date	Test	Total
			W B S O	M F			W B O	
			W B S O	M F			W B O	
			W B S O	M F			W B O	
			W B S O	M F			W B O	

STUDENTS DROPPED IN THIS PERIOD

Date Dropped	Last Name	First

W = white  
 B = black  
 S = Spanish-American  
 O = other

W = WISC  
 B = Binet  
 O = other (name)

ADDITIONAL INFORMATION ON NEW STUDENTS:

STUDENTS ENTERING DURING THIS CORE

Birthdate	Test date	Test	Total	Verbal	Performance	Previous Test Score
		W B O				
		W B O				
		W B O				
		W B O				

W = WISC  
 B = Binet  
 O = other  
     (name)

SIDE B